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ABSTRACT

This document is intended for use by potential adopters of Project I-C-E (Instruction-Curriculum-Environment). Items include sample curriculum materials and examples of information often necessary when making application to a National Diffusion Network state facilitator or for E.S.E.A. Title IV-C Adopter/Adapter Grants. Also covered are elements of training for, implementation, and evaluation of the program at a new site. (RE)

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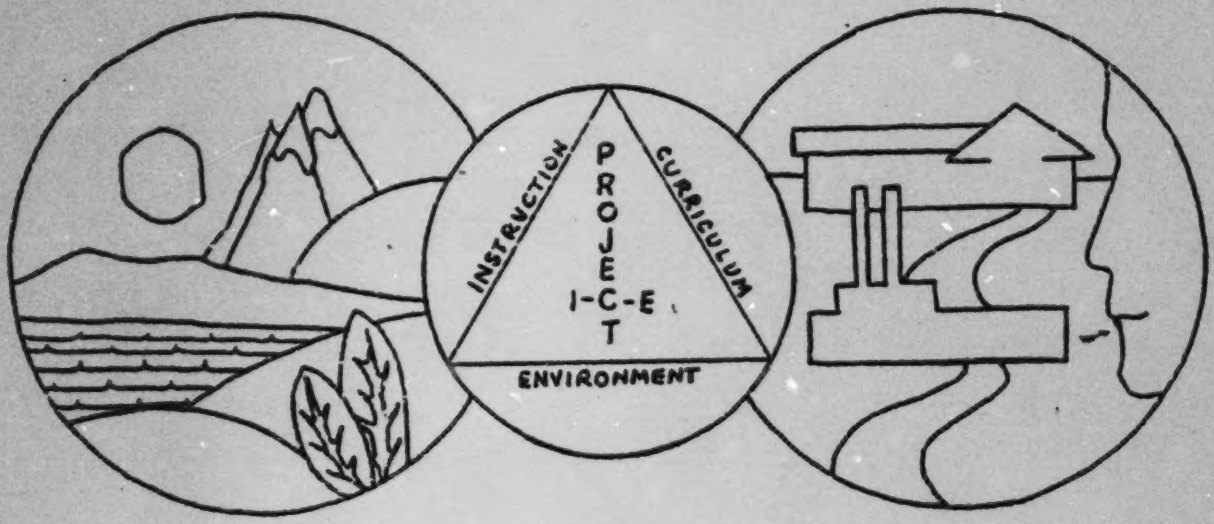
ENVIRONMENTAL EDUCATION



PROJECT I-C-E

ADOPTER HANDBOOK

SE 027 931

PROJECT I·C·E
NATIONAL DIFFUSION NETWORK

Introduction

With Project I-C-E in the USOE National Diffusion Network since 1975 and the varied modes of dissemination and adoption/adaption activities possible, it is evident that a more complete, yet concise, handbook of information be made available to potential clients. While there is need for some additional comment (The Annotated Index to Contents), the major items within this publication consist of sample curriculum materials, examples of items often necessary when making application to an NDN State Facilitator or for E.S.E.A. Title IV-C Adopter/Adapter grants, and the forms and formalities that become a part of the training, implementation, and evaluation of the program at a new site leading to a successful installation. Recognizing the limitations of print media, I encourage you to contact me by telephone or mail when there is need for more information, interpretation, or assistance in making such application to adopt or adapt the I-C-E Environmental Education Program.

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Annotated Index to Contents

1. I-C-E Introductory Letter; pp. 9-10

   A nutshell description of I-C-E and how it functions in the National Diffusion Network. The reverse side lists current State Facilitator contacts.

2. Project I-C-E (Instruction-Curriculum-Environment) - An Abstract; pp. 11-12

   More than nutshell detail here on the I-C-E environmental education program. Note especially the "Implementation Requirements", the attendant costs under "Financial Requirements" and "Services Available". The "Implementation Requirements" are expressed in optimum operational mode terms. In order to maintain a more flexible posture, there are alternatives, and the more specific detail is provided herewith:

   Dissemination/Implementation Activity Categories

   1) Formal Adoptions
      Adoptions in this group include such districts or schools as meet the basic requirements of:
      a) A minimum of 20 teachers in the district to be trained; or if less than 20, a total building-level staff. Composition of adopting staff may be from a building, at any level, ie., elementary, junior high, senior high, a representative core group from all levels, or total K-12;
      b) District/School acquisition of curriculum materials for staff to be trained;
      c) A one-day (approximately five hours) period available for training workshop;
      d) Local staff commitment to teach a minimum of six of the 12 program concepts;
      e) Local responsibility to monitor implementation;
      f) Evaluation feedback from teachers on lessons and activities via simple monitoring reports;
      g) The pre and post testing of students at sample grades 2, 5, 8 and 11 as available at adopting site.

      The major significance of this category is the availability of student impact data, and requires an adequate implementation period (minimum of three months; preferably, the school year) so that teachers may include environmental instruction as integrated into regular curriculum according to the design of the program. The evaluation provides for within-district/school growth as well as comparison to original Project base data. The analysis is made on average means for each of the 12 program concepts and on total average mean score. Financial support for this category may be fully underwritten by DD, SF, the adopting district/school or shared by all, and E.S.E.A. IV-C Grants.

   2) Adoption Initiated; Implementation Projected
      This category meets all the basic requirements as outlined under the Formal Adoption category, but training took place too late in

the school year to allow for adequate implementation period. Hence, implementation is projected for the following school year, with pre and post testing to take place. It becomes a carry-over activity, with similar financial support factors as outlined above.

3) Informal Adoptions
This category includes such sites as meet most of the basic requirements to be considered an "adoption", with the major exception being the evaluation of student impact via pre and post testing which is not part of the agreement/commitment because of time or financial limitations, and is more dependent on the adopting district/school for the costs involved.

4) Other Activities
Activities under this category serve the continued need to foster environmental education, wherever and whenever possible. Major differences are in that the number of staff trained at a district or building level is inadequate, and it follows then, that evaluation is not practical, nor are some of the other requirements feasible. The value in pursuing such activities is the potential that such may lead to formal adoptions. The financial support for this category vary, but generally are dependent on full reimbursement for expenses.

3. I-C-E Environmental Concepts; p. 13

A listing of the 12 major environmental concept categories which form the basis for the I-C-E K-12 Program, or any level thereof.

4. Episodes (mini-lessons) from the I-C-E Curriculum Guides and Outdoor Activity Models; pp. 15-66

Since the I-C-E curriculum materials represent a substantial package, costs prohibit the distribution of the booklets or outdoor series. In order to display the practical "I can use this tomorrow" nature of the materials, a representative sample of such items is provided. These are followed by an order form that lists not only package units available, but also the individual items and costs from the different series available.

5. Environmental Education Staff Interest Checklist; p. 67

Except for Item No. 5, a preponderance of "yes" and "sometimes/maybe" responses would indicate a substantial interest by staff in environmental education. This could serve as part of needs assessment, and especially where required by E.S.E.A. IV-C proposals. Other "Statement of Need" factors might be supported by treating such items as:

a. Absence of any coordinated EE effort in system.
b. Current status of any EE effort.
c. Community environmental concerns.
d. Conduct of actual community survey on EE needs.
e. Local officials attesting to such EE needs.

6. Adopter Application Form; p. 69

   For applicant convenience, a simple form to initiate arrangements to adopt/adapt the I-C-E program or to simply request more detailed information, to be used only in connection with NDN activities; not E.S.E.A. IV-C.

7. Developer/Demonstrator--Adopter Agreement; p. 71

   In an uncomplicated format, this agreement details the services to be provided by Project I-C-E, as the Developer/Demonstrator, the adopting district/school commitment, and the linking function of the State Facilitator. It is used for direct NDN adoptions; ie., excluding those under E.S.E.A. Title IV-C. Under "School/District Commitment", those items marked with an asterisk identify the essential core of the I-C-E program necessary to constitute an adoption.

8. I-C-E Program Description and Validation Record Appropriate for E.S.E.A. Title IV-C Applications; pp. 73-74

   E.S.E.A. IV-C adoption/adaption applications of many states require in the narrative section a description of the program to be adopted or adapted, including evidence of success of such a program. The description provided will usually suffice, and may be supplemented where necessary by reference to U.S.O.E.'s publication Educational Programs That Work and a final evaluation report is also available from the project.

9. Adopter/Adapter Goal Statement; p. 74

   A sample goal statement for applicant proposal, especially E.S.E.A. IV-C. It may be altered to suit the particular needs of applicant.

10. Adopter/Adapter Performance Objectives; pp. 75-76

    Three basic performance objectives are suggested, and each includes the data collection or evaluation necessary to substantiate achievement. These are offered as samples, and according to local district/school needs may be altered or be more specific in terms of dates of performance, staff to be involved, etc.

11. Proposed Adoption/Adaption Implementation Schedule; pp. 77

    This timetable provides a convenient reference to the activities relating to initiation, implementation, and evaluation for an adopting school/district. Besides listing the activities to be undertaken, it calls for designating performance responsibility, a time schedule, and specifies those budgetary items which need be reimbursed to Project I-C-E, in the case of E.S.E.A. IV-C applicants, or need to be negotiated between DD, SF and LEA in all other cases.

12. Miscellaneous Forms and Formalities

a. Training Workshop Evaluation; p. 79
b. Episode (mini-lesson)/Activity Monitoring Report; p. 81
c. Mid-implementation Status Survey Form; p. 83
d. Sample page, Grade 8 Environmental Cognitive Inventory (ECI); p. 85
(ECI's available for grades 2, 5, 8 and 11--a cognitive test relating to the 12 concepts and criterion referenced to instructional materials for such grades.)
e. Awareness Program Evaluation; p. 87

HELLO!

May I introduce you to Project I-C-E (Instruction-Curriculum-Environment) and the National Diffusion Network?

I-C-E is a K-12 environmental education program based on a set of 12 major environmental concepts, with a strategy for integration into all major discipline areas of a typical school curriculum program—on the premise that all teachers can teach environmentally and that all subjects be used to support environmental education.

Validated by the State of Wisconsin and approved by the United States Office of Education and the National Institute of Education (OE/NIE) Joint Dissemination Review Panel on the basis of student effectiveness, low cost and transportability, Project I-C-E now functions as a **DEVELOPER-DEMONSTRATION PROJECT** (DD) in the **NATIONAL DIFFUSION NETWORK** (NDN) funded by the United States Office of Education.

As a DD, then, I-C-E is available for adoption/adaption by other schools or districts nationwide. It's now possible to conduct awareness activities to disseminate information about the program, and where there is interest, provide for teacher training workshops and follow-up technical assitance leading to implementation of the program by any non-public or public **LOCAL EDUCATION AGENCY**(LEA-any district or school). Through the National Diffusion Network, the Project I-C-E Environmental Education Program has provided materials and training to over 3000 teachers in some 90 schools or districts in 18 states.

The NDN also uses a **STATE FACILITATOR PROJECT** (SF) strategy—a linkage system—to assist any LEA in becoming aware of NDN approved programs in varied educational areas and in adopting/adapting such programs as meet school or district needs.

By combining the personal, material and financial resources of the DD, SF and LEA, the NDN provides for an expedient, practical and economical process to examine and implement the I-C-E environmental education program by a group of interested teachers, by a building level staff, or a total K-12 system.

For more information or specific details, contact your state facilitator project director as listed on the reverse side or contact Project I-C-E directly.

THANKS!

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PROJECT PROJECT I-C-E (Instruction-Curriculum-Environment)

descriptors Ecology
Environmental Education
Interdisciplinary Approach

target audience K-12 integrated environmental education program for all teachers in major discipline areas, excluding foreign languages, and for most student ability levels.

description A concept-based, integrated, interdisciplinary total K-12 environmental education program.

Project I-C-E offers a total K-12 curriculum and instruction program for environmental education. Its primary goal is to lead students directly or subtly to awareness, appreciation, recognition, and action regarding the vital issues, concerns and factors shaping environmental attitudes and values.

Twelve major environmental concept categories provide a framework for the K-12 program, as well as for each grade level and subject area. The entire program is neither scientifically nor technically oriented; it is based on the assumptions that (1) all teachers can and should teach environmentally, and (2) all disciplines (subject areas) should be used to reinforce environmental learning.

Through the use of a supplementary "episode" (mini-lesson) design, the learning activities may be integrated into traditional courses of study by substitution of content or activity; hence, the program tries not to make an additional instructional demand on teachers. The lessons are referenced as to concept; they have subject-area and topic designations; they suggest several alternative student-centered activities based on cognitive and affective objectives and necessary skills; and they include suggested reference and instructional resources for teachers. The program emphasizes use of the urban and natural community as an extension of (and a reinforcement for) classroom activities. No special equipment, facilities or staffing are necessary.

Project curriculum guides and field activity units can be used by individual teachers, or can be readily implemented by groups of interested teachers, by schools, or by a K-12 system without regard for locale or circumstances.

Since 1975, I-C-E has accumulated over 60 adoptions/adaptions in 17 states, involving more than 1,400 teachers. A number of the adoptions include total K-12 district staff, and one state, Indiana, has made the I-C-E curriculum materials an integral part of the SEA-supported Total Environmental Education Program.

assurances/claims An evaluation design, using project-developed criterion-referenced instruments tested for validity and reliability, showed statistically significant student cognitive gains on the 12 major environmental concept categories for sample grades. Grade 2 students showed a pre/post gain of 5.28; grade 5 gain was 5.14; grade 8 gain was 2.95; for grade 11, results were inconclusive. A complete evaluation report is available.

implementation requirements The adoption agreement to implement the I-C-E program requires: (1) a minimum of 20 teachers in the district to be trained, or if less than 20, a total building staff; (2) district/school acquisition of curriculum materials for staff to be trained; (3) a one-day (five hour) period available for training; (4) local staff commitment to teach a minimum of six of the 12 program concepts; (5) local responsibility to monitor implementation; (6) evaluation feedback from teachers on lessons and activities via simple monitoring reports; and (7) where possible, the pre-and post-testing of students at sample grades 2, 5, 8 and 11, as available at adoption site.

financial requirements The 39 I-C-E curriculum guides range in price from 75¢ to $3.75; these, together with other program implementation materials, average out to a cost of approximately $5 per teacher. Travel and per diem expenses for awareness and training need be negotiated between Project I-C-E, state facilitators and/or adopting schools.

services available An NDN-funded Developer/Demonstration Project.

Awareness materials are available at no charge. I-C-E can present awareness programs nationwide. Visitors are welcome at the project center by appointment; but the program aim is adaptation to the community of the adopter site, and therefore all training is at adopter site. All program curriculum materials are available; I-C-E RMC rental media materials are available to teachers at adopter sites. Effectiveness of program adoption, with a minimum five months' implementation, may be evaluated with a series of Environmental Cognitive Inventories (ECI's) for sample grades 2, 5, 8 and 11. Program materials, travel, per diem and evaluation costs to be negotiated.

contact Robert J. Warpinski, Director; Project I-C-E; Cooperative Educational Service Agency No. 9; 1927 Main Street, Green Bay, WI 54301. (414) 497-3755.

Developmental Funding: USOE, ESEA Title III; USOE JDRP No. 75-39 Approved 5/14/75

I-C-E is a Developer-Demonstration Project in the National Diffusion Network, United States Office of Education.

I-C-E List/Prices for Program and Curriculum Materials

TRAINING MATERIALS

"Head High in Learning", 84 slides, carousel, tape, script $50.00
Introduction to, and an overview of, the I-C-E EE Program.

"To Love and Respect the Land", 140 slides, carousel, tape, script $70.00
For teachers, an overview of the 12 major environmental concepts that form the basis for the K-12 I-C-E Program.

"The Field Trip", 117 slides, carousel, tape, script $60.00
Covers all practical considerations necessary for a successful outside activity or field trip.

CURRICULUM MATERIALS

1. Complete set of 39 Environmental Education Guides, all basic subject areas, K-12 ..... $85.00

2. The following series of outdoor activities:
   a) A set of 33 field activity titles for diverse settings, spanning a K-12 program ..... $ 5.00
   b) A set of 54 activity titles specifically directed to a Nature Center or natural area, for K-12, but with K-8 concentration ..... $ 9.00
   c) A set of 10 activity titles, elementary and junior high levels, directed specifically to any school yard ..... $ 2.00

   (Lists of individual titles are available for the three sets listed above.)

I-C-E CURRICULUM GUIDES - Individual Items:

Kindergarten	3.00	Mathematics (Grades 9-12)	2.25
Grade One	3.75	Language Arts (Grades 10-12)	2.25
Grade Two	3.00	Music (Grades 10-12)	.75
Grade Three	3.75	Art (Grades 10-12)	2.25
Grade Four	3.75	Civics	1.15
Grade Five	3.75	World History	1.15
Grade Six	3.00	American History	.75
Music (Grades K-3)	1.50	Elective Studies	.75
Music (Grades 4-6)	2.25	Industrial Arts I (Grades 7-12) (Woods, Metals, Drafting, Electricity)	3.00
Art (Grades K-3)	1.50		
Art (Grades 4-6)	2.25		
Physical Education (Grades K-6)	2.25	Industrial Arts II (Grades 9-12) (Plastics, Graphic Arts, Power Mechanics)	2.25
Math (Grade 7)	1.50		
Math (Grade 8)	1.50		
Language Arts (Grades 7 & 8)	2.25	Agriculture	3.00
Social Studies (Grades 7 & 8)	2.25	Physical Science	.75
Earth Science (Grade 7 or 8)	1.15	Biology	3.75
Life Science (Grade 7 or 8)	1.15	Chemistry	1.50
Music (Grades 7-9)	1.50	Physics	1.50
Art (Grades 7-9)	2.25	Business Education	3.75
Physical Education (Grades 7-12)	.75	Concept Rationale Booklet	.50
Home Economics (Grades 7-12)	3.75	Catalog of Media Resources	1.50
General Math (Grades 9-12)	2.25	Implementation Strategy Handbook	1.50

SPECIAL SERVICES

1. The I-C-E RMC houses an excellent collection of instructional media and materials for environmental education. These are available at inexpensive rental rates and are listed in the "Catalog of Media Resources" at $1.50.

2. An Index To Other Environmental Education Programs from more than two dozen nationwide projects is available, listing activities by environmental topic and grade level. 100 pages of entries at $3.00.

3. For the development of an environmental school yard or a nature center, the Outdoor Site Development Reference and Resource Kit and consulting service are available. Details on request.

Project I-C-E RMC - 1927 Main Street, Green Bay, Wisconsin 54301.

PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
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ENVIRONMENTAL CONCEPTS

1. The sun is the basic source of energy on earth. Transformation of sun energy to other energy forms (often begun by plant photosynthesis) provides food, fuel and power for life systems and machines.
2. All living organisms interact among themselves and their environment, forming an intricate unit called an ecosystem.
3. Environmental factors are limiting on the numbers of organisms living within their influence. Thus, each ecosystem has a carrying capacity.
4. An adequate supply of clean water is essential to life.
5. An adequate supply of clean air is essential for life.
6. The distribution of natural resources and the interaction of physical environmental factors greatly affect the quality of life.
7. Factors such as facilitating transportation, economic conditions, population growth and increased leisure time influence changes in land use and population densities.
8. Cultural, economic, social and political factors determine our values and attitudes toward the environment.
9. We have the ability to manage, manipulate and change our environment.
10. Short-term economic gains may produce long-term environmental losses.
11. Individual acts, duplicated or compounded, produce significant environmental alterations over time.
12. Each person must exercise stewardship of the earth for the benefit of all.

E. S. E. A. Title III — PROJECT I—C—E 59—70—0135—4

Environmental: **Integrated with:**

CONCEPT NO. 1 Energy **SUBJECT** Science

ORIENTATION Energy Sources **TOPIC/UNIT** Life in the Forest

BEHAVIORAL OBJECTIVES

Cognitive:

Children will view filmstrips and investigate various fungi to discover that the sun is the basic source of energy.

Construct an explanation that for the poor condition of a plant, using the absence of sun as the basic reason.

Affective:

Appreciate the dependence of all living things on the sun, by listing it as the primary source of energy for all living things when asked.

Skills Used:

1. Investigation
2. Collections of fungi and bacteria
3. Observing growth
4. Discussion
5. Record-keeping

STUDENT—CENTERED LEARNING ACTIVITIES

In-Class:

A. Review needs of a healthy tree. Discuss what would happen if the sun ceased to shine.

B. If class does not visit woods area, show slides, filmstrip, or film on falling logs or decaying wood.

C. Make collage of pictures of plants & animals that live off an original tree. Make a mural if pictures for a collage are not available.

D. Investigate:
   1. Life bark-insects, slugs
   2. Discover how decaying wood becomes part of soil
   3. Grow different fungi:
      a. Bread mold
         Homemade bread works best because preservatives have not been added. Place bread that has been sprinkled with water in a sealed, transparent container. Label, with childs name

(continued)

Outside or Community:

A. Visit a wooded area. Look at a fallen log. Investigat (Note how the other animals in this environment depend directly or indirectly on plants.)

SUGGESTED RESOURCES	CONTINUED OR ADDED LEARNING ACTIVITIES	12

Publications:

Ranger Rick Magazine, Wildlife Federation
The True Book of Bacteria by Anne Frahm Children Press, 1963
Once There Was A Tree, Phyllis Bush, World Pub.
Concepts in Science, Brandwein, Cooper, Blackwood, Home.
Growth of a Tree, American Forest Institute
Field Guide "Natures Recycling System II" ICE-RMC

Audio-Visual:

Films:
How Plants Help Us, 12 min. McGraw-Hill, BAVI
Life on a Dead Tree, 11 min. Films Assoc. of Calif. BAVI
Animals & Plants of Forests, McGraw-Hill
Filmstrips;
Green Plants Are Important to Us, Jam Handy Organization, 2821 E. Grand Ave.,

Community:

Soil Conservationist

In-Class: (continued)

and date. Keep a record of the experiment. Record weekly progress.

b. fruit mold - Seal fruit or a section of fruit in transparent container. Record changes on a data sheet.

Mold Description Chart	
Type of Culture	
Date	Description

c. Bracket fungi on trees - find samples. Bracket fungi, which is usually white or brown fungi that protrudes from tree stumps, can be found in a nearby wooded area.

4. Discuss bacteria, another plant living on a tree; tiny one-celled plants that depend on other plants. Fungi and bacteria are the main plants that cause a tree to decay and return to soil. Without decaying, life could not go on. If there were not substances that returned to soil, green plants would have no food.

E. S. E. A. Title III — PROJECT I—C—E 59—70—0135—4

Environmental: **Integrated with:**

CONCEPT NO. 2 - Ecosystem **SUBJECT** Art

ORIENTATION Interdependence within a Community **TOPIC/UNIT** Mobiles

BEHAVIORAL OBJECTIVES

Cognitive:

Arrange in order of sequence, from least dependent to most dependent, a listing of animals and their needs and the sources of food and shelter.

Affective:

Choose objects for use on their mobiles which indicate the interdependency of nature.

Choose the use of a mobile as a sculpture medium, when given the choice, to illustrate the interdependency of things in nature.

Skills Used:

1. Ability to cut out, paint or otherwise decorate the parts, coordinate these in creating a pleasing and meaningful design.
2. Ability to suspend and balance multiple objects.

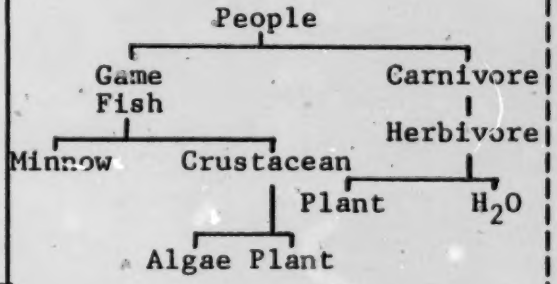
(cont.)

STUDENT—CENTERED LEARNING ACTIVITIES

In-Class:

A. Mobile construction.
   1. Use symbols of the ecosystem in the numberous parts being suspended - the students may elect to incorporate more than one eco-symbol in their design or limit design to using variations of just one eco-symbol.

      Examples
      a. (Use symbols or pictures.)



(cont.)

Outside or Community:

A. Travel to see a building or room having mobiles suspended in it.
B. View a museum display (Milwaukee Museum) to familiarize themselves with the ecosystem chains before constructing their mobiles.
C. Use the finished mobiles to decorate a community building (hospital, bank, store, library, gallery, etc.)

SUGGESTED RESOURCES

Publications:

"Balance on a Showstring", O.C. Locke, Arts & Activities, p. 14-15, June '70.
"Skylight Mobiles", W.D. Ehlers, Arts &Activities, p. 20-21, Jan. '71.
"Papercrafts and Mobiles", R. Perlmutter, Teaching Exceptional Children, p. 134-141, Spring '72.
"Why Don't You Make a Mobile", M. Shaw, Arts & Activities, p. 32-33, April '72.

Audio-Visual:

Slides and books on work of Alexander Calder.

Filmstrip:
Ecology - Our Challenge, I-C-E RMC, FS St 17.

Community:

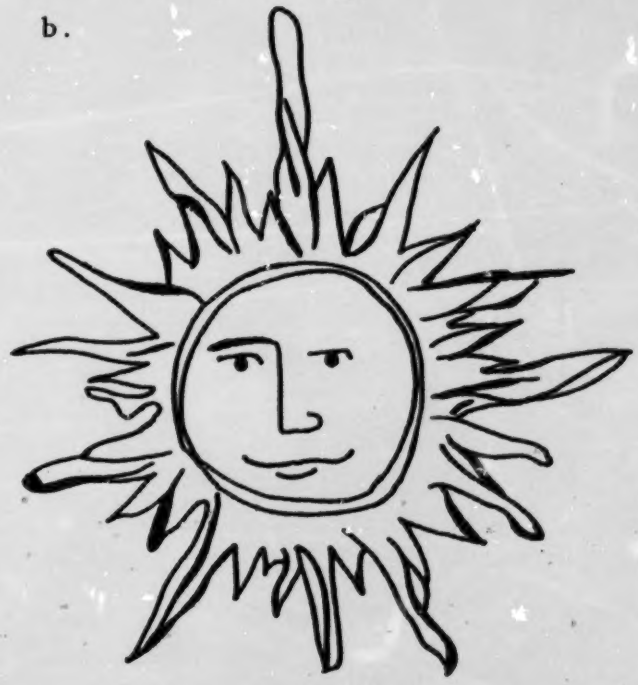
CONTINUED OR ADDED LEARNING ACTIVITIES

SKILLS: (Continued)

3. Attaching supports and threads to the individual pieces.
4. Threading a needle (if a needle is used to put the thread through the shapes.)

CLASSROOM: (Continued)

b.



3. Study Alexander Calder's mobiles.

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental: **Integrated with:**

CONCEPT NO. 3 - Carrying Capacity **SUBJECT** Art

ORIENTATION Elements of Limitation in Art **TOPIC/UNIT** Photography

BEHAVIORAL OBJECTIVES

Cognitive:

Distinguish between past design and carrying capacity and present design and carrying capacity, through a photographic essay & verbal discussion.

Affective:

Attempts to identify direct relationship between past & present design to carrying capacity.

Skills Used:

Choosing Camera angles and compositions that will supply either the greatest amount of information or supply the necessary information in the best manner possible.
Observational skills
Photographic techniques

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

A. Through class discussion, develop lists of buildings and/or structures i.e. bridges, cobblestone streets, patterned sidewalks, fountains that represent the past in the local area.
B. Discuss what it is about these structures that make them unique from more modern counterparts. Follow this discussion with on-site inspection of as many as possible; verify the points brought up in class.
C. A visit to a local museum at this time might serve to enlarge the students' view of the local area as it existed in the past.
D. Students collect old photos of local area, such as downtown areas--take new photographs of areas from same angles (as near as possible) as indicated by old photos. Visually compare changes (in carrying capacity.)

(Continued)

Outside or Community:

A. Local library or newspaper, family photo albums for old photos.

SUGGESTED RESOURCES	CONTINUED OR ADDED LEARNING ACTIVITIES

Publications:

Young Photographers, Camera 48; 5-28, 30-4, August, 1969
Living City, Frank Lloyd Wright Pictures that might help us think about ways to make Architecture, M. Holzman, il. Arch. Rec. 148: 134-7, October, 1970
"Dennis Hopper's America," H. Hopkin il. Art in America, 59:86-91, May, 1971

Audio-Visual:

Architecture and Urban Planning, Art and the Environment, Milwaukee Art Center.
Films from BAVI:
Art of Seeing, No.5733
Eye of an Artist, No. 1783
Photographer, No. 1671
Photography for Everyone, No. 2354

Community:

Historical sites
Museums

01 24

In-Class: (cont.)

E. Discuss how change in design has increased or decreased the carrying capacity.
F. Discuss: Is there information not revealed because of the angles and/or composition of the photos?
G. Follow up by rephotographing area from other angles. (Back and side views of structures, elevated or aerial views, interior vs. exterior). Sources that supply additional information. (Is design carried through? Is design controlling function or has function dictated design?) Are doors, windows, etc. placed to greater or lesser advantage?

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E. S. E. A. Title III – PROJECT I-C-E 59-70-0135-4

Environmental:

Integrated with:

CONCEPT NO. 4 - Water

SUBJECT Language Arts, Social Studies, Science

ORIENTATION Water Pollution

TOPIC/UNIT Water Pollution Purification - European Explorers - Letter Writing

BEHAVIORAL OBJECTIVES

Cognitive:

Demonstrate two ways to purify water.

Affective:

Support a concern for conservation of natural water supply with verbal statements.

Skills Used:

1. Letter writing
2. Map skills
3. Laboratory skills
4. Research - Use of IMC

STUDENT-CENTERED LEARNING ACTIVITIES

In-Class:

A. The student will investigate, through research, several methods of purifying water.

B. The student will use two of the methods to purify a sample of water.
   (a) Distillation method
   (b) Iodine method
   (c) Chlorine bleach method
   (d) Boiling and filtering
   (e) Purification tablets
   (f) Others.

C. Find on map cities that are located near bodies of water. Note their populations. Find cities not located near water. Note their populations. Compare:
   Why did people settle near bodies of water? (transportation, water supply, economic reasons, etc.)
   Why have so many bodies of water become polluted in the 20th century? (increased population, industrial wastes, insecticides, more water usage per capita, etc.)

Outside or Community:

A. Library research:
   1. Who was Ponce de Leon?
   2. Trace his route of exploration.
   3. What was he looking for? Why?
   4. Where did he find it?
   5. What was it supposed to do?

B. Write to St. Augustine, Florida Chamber of Commerce for present-day information on the preservation of this spring.

C. Visit local water department to see how water is "purified" for city use.

Integrate with episode in Art with painting in water supply - Concept #5

SUGGESTED RESOURCES

Publications:

Silver Burdett Company,
"The Changing World" 1970 pp. 34-35.
Ginn & Company
"The United States and Canada"
1961, pp. 188-189.
Heath - "In These United States
and Canada" 1969, p. 205.

Audio-Visual:

Filmstrips:
Environmental Pollution...Our World
In Crises, FS, St 1, No. 4 and No. 5,
I-C-E RMC.
Filmstrip: Ponce de Leon
Marinette Co. Bookmobile.
Films:
The Stream, Film 320,
ACI Films, Inc. 15 minutes,
I-C-E RMC.
Rise and Fall of the Great Lakes
Film 240, National Film Board of
Canada, I-C-E RMC.

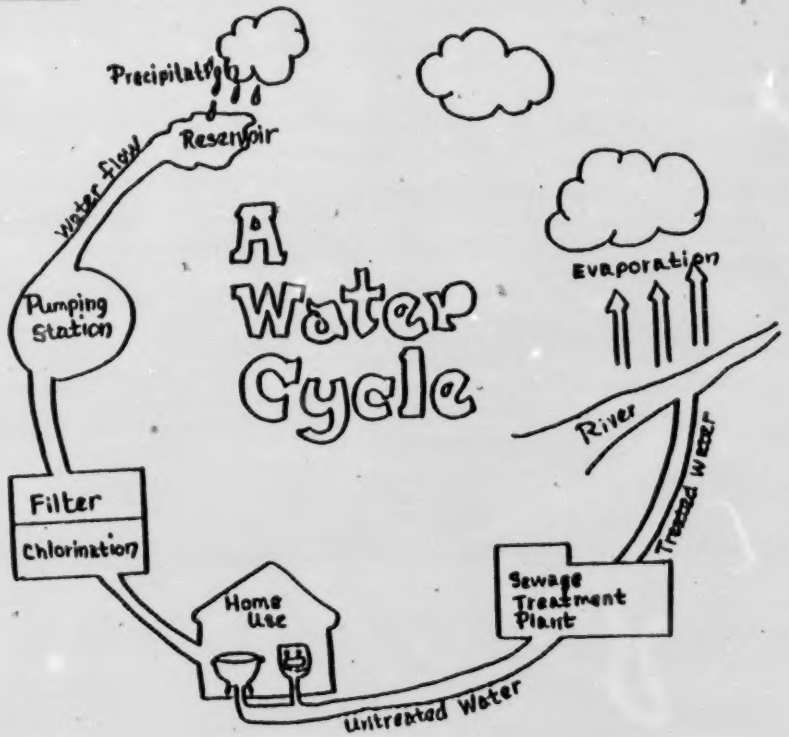
Community:

Local Water Department

Educational Resources
Brochures - Community resource
people from water department.
Visit local water plant.

CONTINUED OR ADDED LEARNING ACTIVITIES

CLASSROOM: (Continued)
D. A Water Cycle



CLASSROOM: (Continued)

D. 1. Distribute above diagram.
2. Discuss each step.

E. List uses of water. Find news clippings, magazine articles, pamphlets and books on water uses. Lead discussion on to how school uses water and lead to water supply of the community - wells? Lake Michigan?

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental: | **Integrated with:**

CONCEPT NO. 5 - Air | **SUBJECT** Civics

ORIENTATION Air Pollution Legislation | **TOPIC/UNIT** Current Political Issues

BEHAVIORAL OBJECTIVES

Cognitive:

Explain the value of writing letters containing viewpoints and suggested actions to public officials.

Describe the opinions of their community on air pollution by writing about a 200-word letter to a given official or agency.

(Continued)

Affective:

Show their interest in the air pollution problem by recommending possible legislation to curtail or eliminate it.

Evaluate the alternatives, and their effects, when forming a judgement on a process or action.

Skills Used:

1. Ability to give and interpret an opinion poll.
2. Ability to interview.
3. Ability to write a business letter.

(Continued)

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

A. Study unit on public opinion.
B. Identify 5 possible problems on air pollution in writing.
C. Discuss any new legislation that may be pending.
D. Make a list of all the local, state, or federal officials and agencies that may be interested in the opinion of your community on some phase of air pollution or new legislation.
E. Construct a public opinion poll on problems of air pollution and on any possible new laws they may want passed or old legislation repealed.
F. Using the Problem Solving Method list several solutions to the problem of air-pollution in writing:
   1. State the Problem
   2. Define the Problem
   3. Collect data through research
   4. Evaluate data

(Continued)

Outside or Community:

A. Students should study various community and state newspapers and comply a list of major problems that are mentioned most often.
B. Students should interview several people to find out what they consider are major problems.
C. Conduct a house-to-house opinion poll using the information that was gained from the text, newspapers, interviews, and discussion.
D. Write to your Congressman asking for material or federal legislation on national air-pollution standards. Report orally on your findings to the class.
E. Check A.M.A. reports on air pollution and effects on respiratory diseases.

SUGGESTED RESOURCES	CONTINUED OR ADDED LEARNING ACTIVITIES	18

Publications:

Your Life as a Citizen, Ginn and Co., pp. 257-276.
Community Action: How To Get It Successfully, Grass Roots Guides, Social Studies School Service 10000 Culver Blvd., Culver City, Calif. 90230
Politics of Pollution, set of 30 student booklets, teachers guide, same address as above,
Political Broadcasting, Herbert E. Alexander, same address as above. (Community Action.)

Audio-Visual:

Filmstrip:
How our Laws Are Made, Brown County Library Loan.
Environment and Action, Perma-Bound, Hertzberg-New Method, Inc., Vandalia Road, Jacksonville, Ill. 62650

Community:

Interview your mayor, city councilman, town board chairman, or a board member to find out what your local air-pollution standards are and what is being done to meet them Report your findings to the class.

Cognitive: (cont.)

Identify as a faulty conclusion that "removal of the incinerator will reduce pollution," unless feasible use can be found for the materials.

Skills Used: (cont.)

4. Ability to Solve Problems.
5. Ability to form concepts.

Inclass: (cont.)

5. List several solutions to Problem (Legistation)
6. Justify solutions selected.

G. Read and discuss orally the introduction to "Urban Problems and Poverty" on pp. 272-275 in Current Perspectives on Social Problems by J.R. Landis. Advanced Students, Wadsworth.

H. Read "Car Snobs, Commuters, and Chaos" by C. W. Griffin, Jr. on p.p. 296-305 of the above source. Summarize the main points in the article by writing out five concepts contained in the article-Advanced Students.

I. Interpret and discuss the following quotation by E.B. White in small group discussion:
"I am pessimistic about the human race because it is too ingenious for its own good. Our approach to nature is to beat it into submission. We would stand a better chance of survival if we accommodated ourselves to this planet and viewed it appreciatively instead of skeptically and dictatorially."

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental:

Integrated with:

CONCEPT NO. 9 - Resources

SUBJECT General Math (Cross Ref: Biology)

ORIENTATION Wise Use of Resources
Local Community

TOPIC/UNIT GM-7 Percents (story problems)

BEHAVIORAL OBJECTIVES

Cognitive:

Calculate percentages of each flora species in a given area of marshes. Calculate percentages of the sizes (diameters, height, etc.) of given flora species.

Affective:

Promote the preservation of the wetlands for wildlife and its resources.

Skills Used:

1. Story problem solving
2. Percentage
3. Basic computation

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

A. Problems on land and forest use on Worksheet GM-7A.

Answers to Worksheet GM-7A

1. a. 444,444 to 555,555
   b. $1,423,940,000
   c. Answer will vary
2. a. 68,031 acres
   b. 22,677 acres - 140 farms
   c. 3,220 people
3. a. 34,892,500 acres
   b. 83,615 acres
   c. Answer will vary

Outside or Community:

A. Field trip to a wetland area.
   1. How large of an area is the marsh?
   2. How many different species of flora can the student find and identify?
   3. What is the average size of the different trees? (Students will have to know the different ways of measuring a tree.)
   4. Is there a pond in the forest? What factors control the pond? What is its total area? Widest distance across the pond?

SUGGESTED RESOURCES

Publications:

Making Peace with the Marshes of New Jersey, Smithsonian, Mar., 1972.
Life of the Marsh, William A. Niering, McGraw-Hill.
Vegetation of Wisconsin, J. T. Curtis, U. of Wisconsin, 1959.
Freshwater Marshes, National Audubon Society, 1130 Fifth Avenue, New York, N.Y. 10028. (Available in quantities of 35 or more at 20 cents each.)

Audio-Visual:

Film:
Cry of the Marsh, #7350, BAVI.
Marsh Waters - Waste or Wealth, #0445, BAVI.
World in a Marsh, McGraw-Hill.
One Day at Teton Marsh, #200, I-C-E RMC.
Filmstrip:
Cherokee Marsh - A Wetland to Cherish, Instructional Material Center, Madison, Wisconsin.

Community:

DNR
Flood plains
Library
County Conservation Agency
Wetlands for Wildlife
5 Charles Backes
11258 N. Revere Rd.
Mequon, Wisconsin 53092
Horicon marsh area

CONTINUED OR ADDED LEARNING ACTIVITIES

Worksheet GH-7A

1. Problems on marshes. In New Jersey, there are 400,000-500,000 acres of marshland in the state with 10% of the wetlands having already been destroyed. In recent years in Hackensach Meadows alone, the marsh is being filled in at the rate of 30,000 tons a week. Each acre of the meadows is valued at $70,000 for landfill.

   a. Using the information given, New Jersey previously had how many acres of marshland?
   b. If the Hackensach Meadows was made up of 20,342 acres, how much would the meadows be worth for landfill purposes?
   c. What does the given information tell you about the importance of wetlands?

2. Dane County, Wisconsin.

   a. Dane County is a shrinking wetland area. A survey completed in 1958 indicates the loss of 22,677 acres of wetland to drainage during a 20-year period (an average equivalent to nearly 140 Wisconsin farms). This loss represents 1/3 of the wetlands that were inventoried in 1938. Indications are that the trend will continue.
   b. The surface waters and wetlands are used for hunting. In 1960, over 16,200 persons bought small game hunting licenses in Dane County. National surveys estimate that nearly 1/5 of this number hunt waterfowl, therefore, receiving direct benefits from open water and wetland areas. Moreover, marshlands provide optimum habitat for upland game birds and small game animals, therefore, benefiting nearly all hunters.
   c. Questions:
      1. How many wetlands were inventoried in 1938?
      2. If the present trend continues, how many acres will be lost by 1978? This is approximately how many farms?
      3. How many persons hunted waterfowl in 1960?

3. Northern Forest - Lowlands.

   The lowlands take up 2,241,400 acres or 6.40% of the land surface of Wisconsin. The lowland forest has 27 tree species, mainly black spruce, tamarack, white cedar, balsam fir, jack pine, hemlock, yellow birch, black ash, and American elm. The prevalent groundlayer has approximately 193 species of flora. (The most important factor of a northern lowland forest is the organic or peaty substrate.)

   a. How much total land surface does Wisconsin have?
   b. If each species of tree had an equal amount of land, how many acres would each specie require?
   c. Discuss the use of the marshland in the area.

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental: | **Integrated with:**

CONCEPT NO. 7 - Land Use | **SUBJECT** Earth Science

ORIENTATION Research of local land use | **TOPIC/UNIT** Land Use

BEHAVIORAL OBJECTIVES

Cognitive:

Apply the principles of research in analyzing the soil, water, air, and geographical features of a given area to discover how each influences the land use. Predict the change in land use that will probably result from a given change in one of the factors above.

Affective:

Attempt to illustrate that land conditions determine usage and will influence where people live.

Skills Used:

1. Collecting data
2. Organization of materials
3. Map making
4. Graphs and diagrams

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

A. Research on Land Use of the Area.
   1. Use for recreation
   2. Use for roads
   3. Residential uses
   4. Commercial and industrial use
   5. Food growing
B. Use research material to show increase in the last 20 years.
   1. How the land area uses have changed
   2. How food production has increased; reasons for increased production.
C. Population research
   1. Change of population centers.
      a. Land use changes from farming to residential and commercial/industrial use.
      b. Access from rural to urban areas with road building.
      c. Soil depletion and land clearing.

(Continued)

Outside or Community:

A. Students will select one aspect of the area to investigate such as:
   1. Soil
   2. Geological features
   3. Air
   4. Water
B. Each aspect of the area investigated will relate to the effects on the community such as:
   1. Population changes
      a. Industry
      b. Food related and producing
C. Resource people
   1. Local agriculture agent
   2. Water and air quality expert from the state department
   3. Dept. of Natural Resources
   4. Personnel from local university familiar with local land formations.

SUGGESTED RESOURCES

Publications:

Asimov, Isaac. Building Blocks of the Universe. Abelard-Schuman, Ltd., New York. 1957.
Asimov, Isaac. The Search for the Elements. Basic Books, Inc., New York. 1962.
Meyer, Jerome S. The Elements: Builders of the Universe, World Publishing Co., New York. 1957.
Kane, Henry B. The Tale of a Meadow, Alfred A. Knopf, Inc., New York. 1959.

(Continued)

Audio-Visual:

Conserving our Soil Today, 11 min., Coronet 1960, Environmental Studies, BAVI.
Heritage We Guard, 31 min., USDA 1940, Environmental Studies, BAVI.
Masters of the Soil, 23 min. Ethyl 1948, Environmental Studies, BAVI.
Man Uses and Changes the Land, 11 min., Coronet 1967, Environmental Studies, BAVI.

Community:

CONTINUED OR ADDED LEARNING ACTIVITIES

Classroom: (Continued)

D. Research on land, air, water, geological conditions
   1. Land (Soil)
      a. Mineral conditions
      b. Soil types
      c. Plant growth in types of soil
      d. Soil conditioning
   2. Air
      a. Pollutants
         i. Industrial ii. Natural iii. Sanitary burning
   3. Water
      a. Rainfall b. Runoff c. Ground water
      d. Rivers, streams, lakes (pollution of)
   4. Geological conditions
      a. Natural land features
         i. Valley ii. Hills iii. Plains iv. Rock formations (red rock, types of rocks, soil depth)

E. Research:
   1. Investigate and observe types of rocks and soils
   2. Investigate minerals and their concentration in soils
   3. Use soil testing kits for evaluation
   4. Use water analysis and air quality kits
   5. Rock samples for identification
   6. Students keep data on investigations
   7. Make graphs and charts of data
   8. Use diagrams for soil layers and land formations
   9. Students make oral and written presentations

Publications: (Continued)

Watts, Mary T. Reading the Landscape: An Adventure in Ecology. The MacMillan Co., New York, 1957.
Stallings, J. H. Soil: Use and Improvement, Prentice-Hall, Inc. Englewood Cliffs, N. J. 1957.
Williams-Ellis, Annabel. Man and the Good Earth. G. P. Putnam and Sons, New York, 1959.
I-C-E Field Activity Guide, Land Use - A Simulation Activity.

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental: **Integrated with:**

CONCEPT NO. 8 - Values and Attitudes **SUBJECT** Mathematics

ORIENTATION Quality of Life **TOPIC/UNIT** Addition and Subtraction

BEHAVIORAL OBJECTIVES

Cognitive:

Correcly add and subtract as they play the ecology game.

Affective:

Suggest ways of achieving a cleaner world.

Skills Used:

1. Number line.
2. Forward movement.
3. Backward movement.

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STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

A. Use a number line from 1 - 10.
   1. Make sure the students are familiar with a number line.
   2. Use the chart to get the idea of movement on a number line.
   3. You can improvise on the chart according to need.
   4. A forward direction could be a result of positive ecological action. Reverse direction could be a result of negative ecological action.

B. Use the game on the next page.
   1. Make a game board for every sour students, or use long roll of colored paper divided into section by colored tape.

(cont.)

Outside or Community:

A. Keep track of amount of garbage collected at home. Also, number of cans, glass and paper.
B. Contact janitor to keep track of amount. Ex. - number of bexes - sacks of garbage, unburnable amounts.

SUGGESTED RESOURCES	CONTINUED OR ADDED LEARNING ACTIVITIES

Publications:

Ecology: The City, 130 Mc10, ICE RMC
The Environmental School, ICE RMC, 120 Me
A Place to Live, ICE RMC, 110 A
The True Book of Conservation, Richard Gates

Audio-Visual:

Films:
Our Land Needs Your Help, BAVI
Nature Is For People, BAVI
Lakes, BAVI

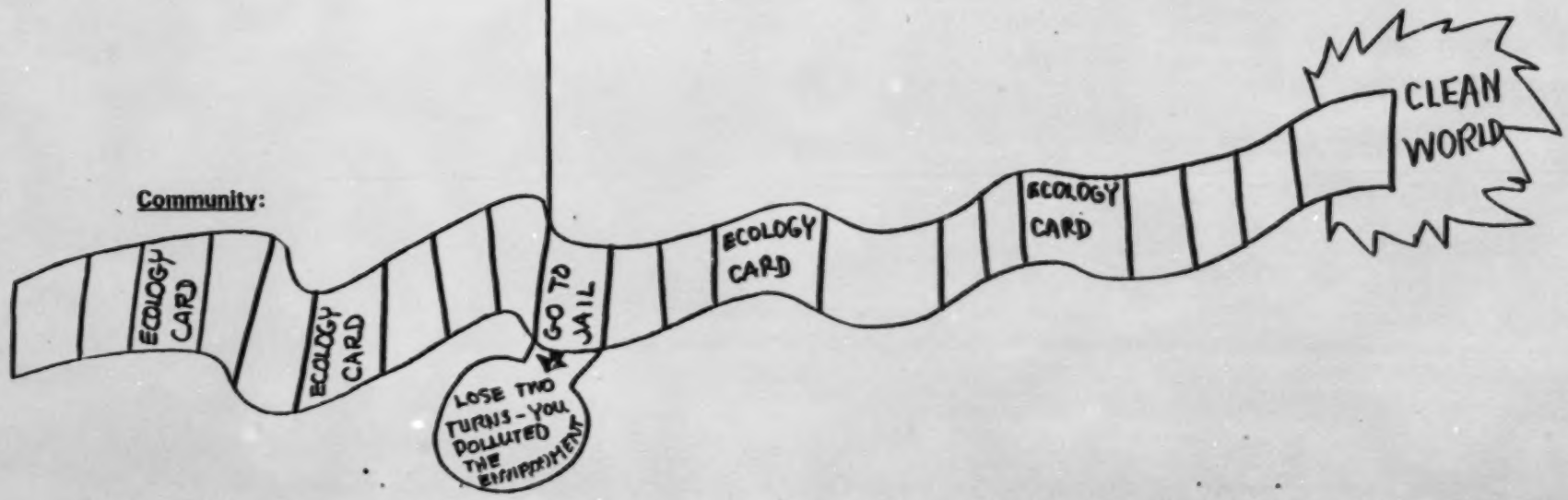
Community:

CLASSROOM (Continued)

2. You will need dice and place markers for each team.
3. You will need positive and negative cards with points for ecological actions.
4. Roll the dice and go the number of spaces you roll. Do what the square tells you.
5. The winner is the person who gets to "Clean World" first.
6. Discuss how many people fluctuate on their values and attitudes toward environment.

Sample Cards:
Forward 2 if you pick up paper in the room.
Forward 4 if you walked to school.
Forward 1 if you turned off a light.
Back 3 if you burned garbage this week.
Back 2 if you have books on the floor.
Back 1 if you wasted food.
Back 6 if you killed a bird.

C. Talk about what kinds of things we do back and forth on our route to a clean world. Use a zig-zag line to illustrate progress. (See sample chart below)



E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental:

Integrated with:

CONCEPT NO. 9 - Management

SUBJECT Art, Reading

ORIENTATION Urban Environment

TOPIC/UNIT Construction

BEHAVIORAL OBJECTIVES

Cognitive:

Describe the characteristics of the structure of the city.

Affective:

The student becomes conscious of the complexity of the problems facing cities by making statements such as, "It's not that easy" when a student comes up with a simple solution to a city problem.

Skills Used:

1. Construction
2. Cutting
3. Pasting
4. Layout

STUDENT–CENTERED LEARNING ACTIVITIES

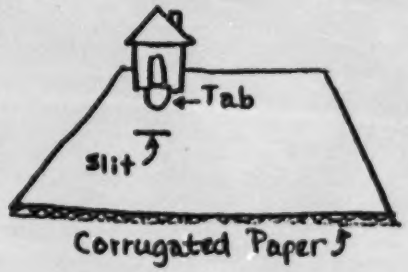
In-Class:

I. Art
   A. Make a city (group project).
      1. Cut out pictures of people, buildings, trees, cars, anything that's found in your city.
      2. Paste a piece of cardboard on the back. Leave tab on bottom.
      3. Draw blocks and streets, manhole covers on a big piece of cardboard or the bottom of a large box.
      4. Assemble your pictures and place them in the city in their appropriate places. Push tab thru slit so buildings, etc. stand up, larger buildings toward back--create depth.

(Continued)

Outside or Community:

A. Collect magazines, newspapers.
B. Have the students take note of the streets and area around them on their way to and from school.



SUGGESTED RESOURCES	CONTINUED OR ADDED LEARNING ACTIVITIES

Publications:

Community Planning Handbook, Ginn & Co., 1970, ICE RMC, 110 Gi

A Place To Live, National Audubon Society, ICE RMC, 110 A

Everything Changes, Howell

City Lots, Living Things In Vacant Spots, Busch

Audio-Visual:

Community:

CLASSROOM (Continued)

5. After the model is constructed, teacher presents various questions which might prompt a reconstruction of the model. Sample questions:
   a. What would happen if we doubled the population of the city? How do we provide for public services because of this increase? Students will offer suggestions as to how the city will meet doubled demands on:
      1) Water supply,
      2) Traffic and public transport,
      3) Housing,
      4) Recreation,
      5) Food supply,
      6) Hospital, police and fire protection, and
      7) Waste disposal.

B. Read Wilson's World by Edith and Clement Hurd (Harper and Row). A boy at his easel creates with paint--his own city. The excellent illustrations and story help students to think about the world they would like to create and live on.
   1. Compare Wilson's World at the beginning of the story with his world at the end of the story.
   2. Name some things that drastically changed Wilson's World.
   3. What advice would you have given Wilson as he was creating his world?

C. Teacher can tape-record Wilson's World and make both the tape and book available to students during their free time.

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental:

Integrated with:

CONCEPT NO. 10 - Economic Planning

SUBJECT Social Studies

ORIENTATION Land Use

TOPIC/UNIT Geography or Current Events

BEHAVIORAL OBJECTIVES

Cognitive:

Through a graphic presentation, demonstrate that man can change his environment with short-term economic gains that will produce long-term environmental losses.

Affective:

Promote that short-term gains are not always the most beneficial to man.

Dispute a statement -- that in which a non-environmental factor is given priority over an environmental factor.

Skills Used:

1. Speaking before group
2. Charting information
3. Designing of displays
4. Bulletin boards
5. Reading newspapers

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

Divide class into groups (approx. 4 to group).

A. Each group will select an industry (lumber, oil, auto, fur, chemical, cattle, railroad, are a few that are well suited) and put together class presentations. A 20-minute time limit may be set. (Presentations should) include:
   1. Maps showing areas of country in question - perhaps a combination of maps showing growth of industry across the nation.
   2. Chart or graph showing the number of people involved, money, etc.
   3. Visual display (if possible) of products of industry, could include bulletin board of pictures.
   4. Mount for display, newspaper or magazine articles dealing with industry & include commercials.

(Continued)

Outside or Community:

A. Library (I.M.C.) research on specific subject area.

B. If possible, visit an area where short-term economic gains may result in long-term environmental loss.

SUGGESTED RESOURCES

Publications:

Reference books dealing with industry under investigation
Magazines, newspapers
Publications dealing with our state's natural resources

Audio-Visual:

Video-tape of news, etc. These would have to be supplied by the teacher.
Film:
Harmony, #340; I-C-E - RMC
Game:
Man in His Environment, SG4; I-C-E - RMC
Kit:
A Study of Rural and Urban Ecology, KT 21; I-C-E - RMC

Community:

Industrial leaders, owners to visit class
Visit local industries
Chamber of Commerce
Resource speakers

CONTINUED OR ADDED LEARNING ACTIVITIES

CLASSROOM (Continued)

B. (Second part of presentation would be "As result of) industry growth, have we lost anything?"

1. Maps or charts showing decreased wildlife, natural resources, etc.
2. How does the use of product affect the environment? Example: cars - air pollution -- oil - pipe lines, well lines - ship wrecks -- housing - mud slides.
3. Mount news articles showing losses.
4. Possible 3D model of environmental change. Example - from forested area to cut over area, poorly designed housing development.

E. S. E. A. Title III – PROJECT I–C–E 59–70–0135–4

Environmental:

Integrated with:

CONCEPT NO. 11 - Individual Acts

SUBJECT Art, Social Studies and Language Arts

ORIENTATION Waste Disposal

TOPIC/UNIT Littering

BEHAVIORAL OBJECTIVES

Cognitive:

Explain the extent of the total change that occurs when large numbers of people do things that result in only a little change by themselves.

Affective:

Pick up after themselves in and outside of the classroom.

Skills Used:

1. Planting
2. Murals
3. Drawing

STUDENT–CENTERED LEARNING ACTIVITIES

In-Class:

I. Language Arts
A. Letterbug Game - Each child finds something in their desk that they no longer want. Go outside or remain in classroom. One child drops the unwanted item (litter) - the change is not too bad. But then have a few more to - then everyone drop their litter. Next step: Clean up - put in trash can. (Encourage high school ag. or art class to design attractive litter containers.)

II. Art
A. Litterbug Bulletin Board. Draw outline of a huge bug. Children go on a "pick-up litter" walk. When they come back, glue litter found to "Litterbug" Bulletin Board.
B. Make individual litter bags with slogans in art class. Use them for pickup at school; then have them use them in their family car or elsewhere.

(cont.)

Outside or Community:

I. Social Studies
A. Yard trip for children to see the articles that have been dropped by careless people.

B. Field trip to a park or picnic ground to arouse feelings in children about environment used by the public.

C. Drawings of the devastation that was caused at park or picnic ground. Follow activity with discussion period.

SUGGESTED RESOURCES

Publications:

Books:
Once There Was a Tree, Discovering Nature Series, Phyllis S. Busch, World Pub.
Patterns of Nature, Jeffrey Baker, Doubleday.
Keep Our World Clean, song sheet.
This Land Is Your Land, song sheet.

Audio-Visual:

Films:
Garbage, I-C-E RMC film #260.
Litterbug, color, 10 min., Avis, BAVI.
The Litterbug, Walt Disney, 8 min.

Community:

Forest Ranger
Janitor

CONTINUED OR ADDED LEARNING ACTIVITIES

CLASSROOM: (Continued)

III. Social Studies

A. Let the child who found the most litter be "King for a Day" or "Queen for a Day".
B. Tell janitor not to empty waste baskets for one week. This will be similar to garbage pickup once a week. At the end of the week, analyze the contents of the waste baskets. Was the paper really unusable and could it have been erased rather than wasting it and taking new? Separate paper for recycling.
C. Have janitor show children what is done with the waste from the waste baskets.
D. During a week's period, the children will make a graph and put checks behind their names as to how many bags of litter they have picked up.
E. Talk about individual efforts toward the litter campaign. (weekly award).

E. S. E. A. Title III – PROJECT I-C-E 59-70-0135-4

Environmental: **Integrated with:**

CONCEPT NO. 12 - Stewardship **SUBJECT** Biology

ORIENTATION Conservation of land Resources **TOPIC/UNIT** People and Their Environment

BEHAVIORAL OBJECTIVES

Cognitive:

Explain the effects of animal activities on water infiltration and runoff of compacted soil. Formulate a management program for a given area and conditions that will incorporate the principles of infiltration of water and growth of plants.

Affective:

Question the use of various agricultural practices which tend to decrease the rate of water infiltration and subsequent increased runoff upon completion of this investigation. Propose management program for a given area and conditions that will minimize the destruction of the resources of land and water.

Skills Used:

Observation.
Experimentation.
Control (experimental).
Comparison.
Gathering data.
Presenting data.

STUDENT-CENTERED LEARNING ACTIVITIES

In-Class:

GENERAL RATIONALE:

The grazing of domestic animals in an enclosed area of native vegetation often brings about great changes in species composition of the communities present. These changes include destruction of many of the original plants, the introduction of many plants not members of the undisturbed community, and a number of changes in the soil of the grazed area. The soil change which is most pronounced is that resulting from compaction by the animal's hooves. This results in a greatly reduced rate of infiltration of rain water and a consequent increase of runoff.

A. Student-centered activity could be discussion on several current environmental issues. Example questions:
   1. Do owners of snowmobiles practice good stewardship?
   2. Does a land owner living on a lake have the right to pollute the water?

(Continued)

Outside or Community:

A. Class Project
   1. Soil compactness may be measured with fairly sophisticated equipment such as a Wilde Permeater. Less sophisticated equipment is adequate for the purpose of this investigation. The student will first remove both ends of a small frozen juice can. Insert the can 2 inches into the soil. Pour in 50 ml. of water into the can and record the length of time required for the water to enter the soil. Study a pair of communities, one grazed, one ungrazed. A school playlot vs. a lawn may be used. Measure the water infiltration rate in the two sites. Submit a brief summary of your observations.

SUGGESTED RESOURCES

Publications:

E. C. Steinbrenner
Effects of grazing on floristic composition and soil properties of farm woodland in southern Wis., Journal Forestry, 49:906-910, 1951.
Sand County Almanac, Leopold.

Audio-Visual:

Film:
Tragedy of the Commons, Holt Rinehart & Winston, Inc., 383 Madison Avenue, New York, N. Y. 10017.

Community:

Local farmer.
Soil Conservation Board Rep.

CONTINUED OR ADDED LEARNING ACTIVITIES

CLASSROOM: (Continued)

A. 3. At a time when fuel shortages appear to be evident, should people who own boats be allowed to use them as a recreational device?
4. Should sales people who are on the road be allowed more gasoline than the average citizen?
5. Does industry, even though it provides jobs for people, have the right to pollute land, water, and atmosphere?
6. Should sports fishing on Lake Michigan be stopped so that commercial fishing can provide a more attractive income for those people employed in the business?

PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
Green Bay, Wisconsin 54301

Environmental Activity Model: OUR SCHOOL YARD V: THE BLOCKS WILL TELL

Recommended Grades: K-1 Seasons: Spring/Fall

Author: Robert Warpinski

Concepts:
2. Ecosystem
6. Resources
8. Attitudes and Values

Integrated with:
Language Arts
Science
Social Studies
Art

Objective(s):
By following directions, children will identify common things in the school yard, print and spell correctly the words for the names of such things to spell the word "NATURE" in the dark lined blocks on the worksheet.

Rationale/Directions:

A little different activity to introduce children early to simple observation and recording skills that uses the outdoors for a classroom while at the same time teaching language skills is very beneficial. With the activity sheets, the students will need a pencil and something with a hard surface to write on. Anything will do; a piece of cardboard or a workbook. Keep the class as one group as you need to read the items and lead the group to different places around the school yard. The children should actually have seen the thing called for in each name before they print it out.

Children should have only the activity sheets.

ACTIVITIES:

1. Stand quietly someplace around the school building or near some trees. Look carefully. Do you see an animal with feathers anywhere? What kind of animal is this? Print the name of that animal here:

_____ _____ _____ _____

Then print the name in the blocks with the number "5", in them, starting with the top block and go down.

2. In the school yard, do you see a tall growing plant? It has branches. In the spring, summer and fall it is green with leaves. Some are green even in winter. What is the name of this kind of plant? Print the name here:

_____ _____ _____ _____

Then print this name in the blocks with the number "6" in them, again starting with the top block and go down.

3. Does your school yard have places that look like a green carpet? Sometimes the janitor cuts this with a lawnmower. What grows here to make such a nice green carpet? Print the name here:

_____ _____ _____ _____ _____

Then print this word in the blocks with the number "2" in them. Start with the top block and go down.

4. Go to the place where you play. Look around for a place where nothing grows. Can you find a place where the ground is almost white, and if you take a handful, it runs through your fingers? What do you call this kind of ground? Print the name here:

_____ _____ _____ _____

Then print the letters in the blocks with the number "1" in them, again start with the top block and go down.

5. You may find it hard to see these little animals. Look around the school building where the ground is bare or in cracks in the sidewalk or driveway. If you find them, there usually are many of them, and they are busy little animals. Do you see any? What is this little animal called? Print the name here:

_____ _____ _____

Then print this word in the blocks with the number "3", from top to bottom.

6. Look around the school building or in the school yard. Do you see any smaller, lower plants? Some may be green all the time; some are green with leaves only from spring to fall; some may have flowers or berries. What is the name of a plant like this? Print the name here:

_____ _____ _____ _____

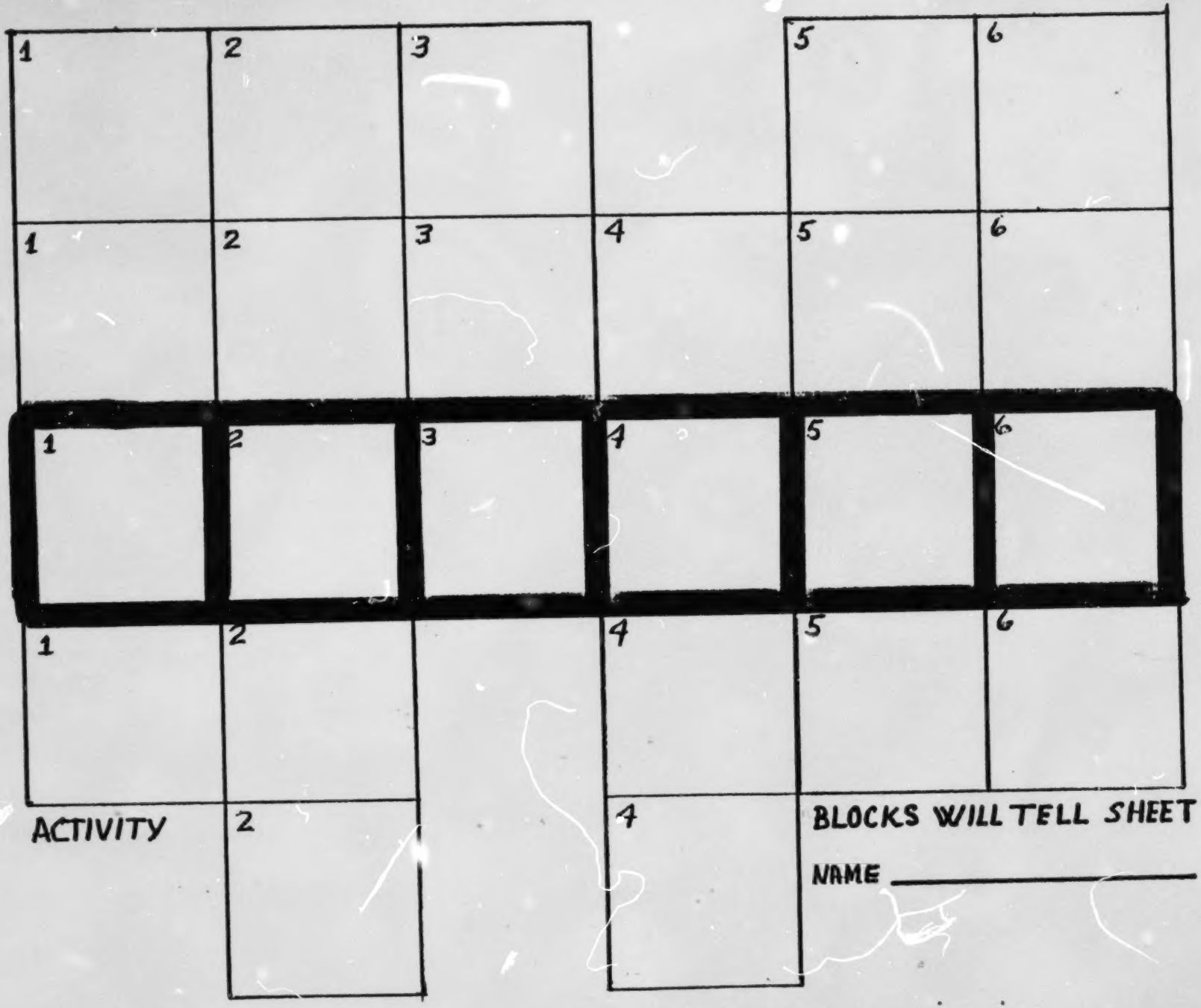
Then print this word in the blocks with the number "4", again start with the top block and go down.

7. If you found all these things in your school yard, and you have the correct name for each one printed in the blocks with the right numbers, what word do the blocks with the dark lines spell? Print that word here:

_____ _____ _____ _____ _____ _____

Can you tell the class what this word means?

8. (Optional) For a bulletin board display, have the children draw small pictures in the right blocks of each thing named.


1
2
3
5
6
1
2
3
4
5
6
1
2
3
4
5
6
1
2
4
5
6
ACTIVITY
2
4
BLOCKS WILL TELL SHEET
NAME

PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
Green Bay, Wisconsin 54301

Environmental Activity Model: DON'T USE TRAFFIC JAM ON PEANUT BUTTER SANDWICHES

Recommended Grades: 1-6

Author: George Howlett, Jr.

Concepts:
5. Air
7. Land Use

Integrated with:
1. Social Studies
2. Math

Objective(s):
Per scheduled activities students will demonstrate through discussion the problems related to traffic situations locally and the implications this has to wasted resources, congestion and pollution.

Rationale/Directions:

If you were to own and drive an automobile, one rule you would learn is that you cannot run it in a place like a garage with the doors closed. If you do you would become very dead in a short time. Auto engines produce dangerous fumes. One of these is a poison called carbon monoxide. Other fumes help form a smoky fog called smog. The more autos running around, the more smog there may be. Smog may cause lung disease. Smog kills some plants. Smog is dirty air. Other things cause smog too, but the auto is a number one smog starter in many places.

Many autos going places at one time may cause traffic jams. People may even get around faster on bicycles than in cars. People in traffic jams get upset and angry. They lose time for other things.

Many autos in a city means having many places to park. We now build buildings in which to park cars. To make traffic go faster, we tear down homes and stores and put in freeways. Freeways take land from farmers. They may go through parks, forests, and nature areas. They may fill in good marshes where ducks live. Streets use land which then can't be used for other things.

People have cars because it is easy to get around. But each year there are more and more cars. To find out how many cars are going around polluting the air and using land space, do the investigations which your teacher helps you select.

Teacher Note:

Sections of this problem study of urban traffic may be used by lower elementary students. The teacher will need to discuss the material, select appropriate investigations and give clear directions. Teachers have permission to extract portions of this material appropriate for class use and reproduce them.

I. Preparing to investigate local traffic patterns

A. Locating yourself

1. Obtain a local street map.

2. Enlarge the section of the map area around your school on large poster board. Print the street names on your map. Mark the location of your school on the map.

3. Mark the stop signs and stop-and-go lights you have seen before in the right places on the map.

4. Mark the streets that have "through traffic" with red arrows. Mark the other streets with blue arrows.

B. Selecting places to study traffic

1. Select a place where two streets with through traffic cross. Mark it A.

2. Select a place where through traffic crosses local traffic. Mark it B.

3. Select a place where two local traffic streets cross. Mark it C.

C. Cinema Time

Your teacher may have scheduled a film or filmstrip to help you think more about the problem of traffic and air pollution. Here are some for the teacher to look up.

Automania 2000 (animated) Contemporary Films/McGraw Hill, 828 Custer Avenue, Evanston, Illinois 60202.

Boomsville, Learning Corporation of America, 1350 Avenue of the Americas, New York, New York 10019. (Growth, technology and its results.)

II. Traffic Investigation

Student teams may make a sign that says "traffic count in progress" to carry with them. Different teams may be assigned to do various parts of this investigation at the same time.

A. Basic traffic count

1. Select a busy street corner (marked A on your map). Work in teams of three each. One person is the car counter, one is the truck and bus counter, and one person is the marker. Count all the cars coming one way on one street for 10 minutes. Different teams should count the traffic from different directions (street 1 or 2, way 1 or 2) on different streets. You may need to have the teacher call out starting and stopping time.

The marker should use dash marks to mark count.

2. Some teams may go to Corner B and do the same.

3. Some teams may go to Corner C and count the traffic there. (The class may go as a whole or aides may take some teams.)

Traffic Count Chart

Street _____ (1) (2) Time of count _____MIN.

Traffic direction (way) _____ (1) (2) Time of day _____

Kind of street _____ Corner (A) (B) (C)

Vehicle	Dash Count	Total
Cars		
Trucks		
Buses		
Taxis		
Motorcycles		
Bicycles		
Other		
	Total Vehicles	

For students who can do multiplication.

Find out how many cars, trucks and other assorted vehicles use the street per hour, multiply each total count by 6 (if you used the 10-minute time count) to get units per hour.

	10 minute total count		Units per hour
Cars	_____	x 6 =	_____
Trucks	_____	x 6 =	_____
Buses	_____	x 6 =	_____
Taxis	_____	x 6 =	_____
Motorcycles	_____	x 6 =	_____
Bicycles	_____	x 6 =	_____
Other	_____	x 6 =	_____

Using the figures from your original 10-minute count make a bar graph showing the use of the street by different vehicles--select an appropriate unit. Perhaps 20 vehicles per ½ inch.

Cars

Trucks

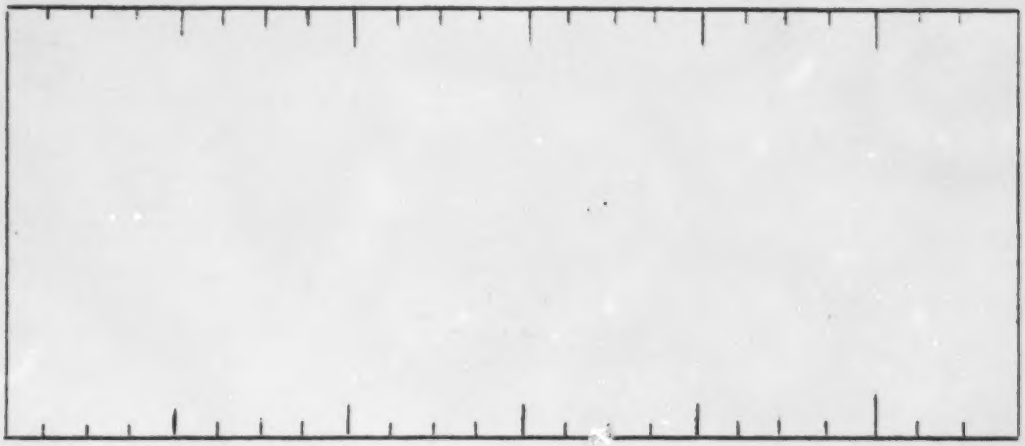
Buses

Taxis

Motorcycles

Bicycles

Other



4. Find out how many vehicles pass Corner A, B, & C.

Corner A

Street 1 Way 1 _____

Street 1 Way 2 _____

Street 2 Way 1 _____

Street 2 Way 2 _____

Corner B

Street 1 Way 1 _____

Street 1 Way 2 _____

Street 2 Way 1 _____

Street 2 Way 2 _____

Corner C

Street 1 Way 1 _____

Street 1 Way 2 _____

Street 2 Way 1 _____

Street 2 Way 2 _____

Total Corner A _____

Total Corner B _____

Total Corner C _____

Did you guess which is the busiest corner?

Yes No

B. Rider Count

Count the number of riders per car and bus for 10 minutes at one of the corners. Again different teams may go to different corners. Teams count way 1 or 2 on street 1 or 2 as before. Use dash count.

Rider Count Chart

Street _____ (1) (2) _____ Time of count _____ min.

Traffic direction (way) _____ (1) (2) _____ Time of day _____

Kind of street _____ Corner (A) (B) (C)

Vehicles	Dash Count	Total
Car		
Persons		
Taxi		
Bus		
Persons		
	Total Persons . Total Vehicles	

For students using fractions or decimals, find out average number of persons.

$\frac{\text{Persons}}{\text{Vehicles}}$ = Rider Average

Per car _____

Per taxi _____

Per bus _____

C. Smog Count

Record the number of vehicles with smoky exhausts on a busy street corner over a 5 or 10 minute period.

Smog Count

Street _____ at Street _____

Time _____ Time of count _____ min.

		Total
Smoggy Cars		

D. Noise Check

Use a portable tape recorder to record the traffic sounds for 5 minutes at a busy corner. Play back in class and let classmates tell what they think it was like at your corner.

E. If there is a stop-and-go light near the school, time how long the green light lasts in each direction with a watch. If you counted cars at this corner, compare the car counts to the light times. Do you think the city should change the light timing?

Go time Street 1 _____ Car count Street 1 _____.

Go time Street 2 _____ Car count Street 2 _____

F. Pedestrian (walker) count

Count the number of people who pass a busy street corner for 10 minutes.

Walker Count

Corner (A) (B) (C)

Time of day _____ Time of count _____min.

Walker		Total

Write down problems walkers have with traffic.

G. Land use count (5th grade up)

1. On a quiet street use tape measure or ruler to measure the area of a street block. Set out a safety patrol at each end of the block with signs to warn of road survey.

Cross street width _____

Length of block _____

Area of block - length x width _____

Determine how much land one city street uses.
Long blocks are 10 per mile (about).
Short blocks are 12 per mile (about).

Use a street map to find out how long a particular street is. How much land in a city is used for parking lots?

III. Follow-up Activities

A. Idea Time

1. Class teams exchange information to fill in missing blanks.

2. Class discussion time on what students feel about traffic.

Ideas to talk about:

smog
noise
dangerous drivers
public transport
road safety and manners
gasoline use
using bicycles
smells
riders
walkers
land used
traffic jams
air pollution

B. Resource Time

Use the IMC or library to investigate more on the problems of:

City air pollution
The auto and air pollution
Kinds of auto engines
Air pollution standards
Traffic and people
Traffic and space
Public transport
Bicycle transportation
Gasoline and fuel supplies
Road construction

C. Causes and Solutions

Use one or more of the following skill areas to help each other understand causes and solutions to the traffic problem.

class discussion
mural construction
writing a playlet
construct an enlarged traffic count chart to display
panel discussion
reports
wirte or read poems

Resources for the Teachers and Students

The Traffic Jam: Problems of American Society, Washington Square Press.

Water and Air Pollution: Problems of American Society, Washington Square Press.

Air Pollution, Lavaroni and O'Donnel, Addison-Wesley.

Needed: Clean Air, (obtain from Environmental Protection Agency).

Your Car and Clean Air, Automobile Manufacturers Association, 320 New Center Building, Detroit, Michigan 48202.

A Citizen's Guide to Clean Air, The Conservation Foundation, 1717 Massachusetts Avenue, N.W., Washington D.C. 20036.

Environmental Activities Training Project
Fallen Timbers Consortium Schools
1927 Main Street, Green Bay, WI 54301

Environmental Field Activity: The Shape of Nature's Odds and Ends

Recommended Grades: 5-6 Seasons: Fall/Spring

Author(s): Mary Peerenboom

Little Chute

Concept(s):

2. Ecosystem
6. Resources
8. Attitudes and Values

Integrated with:

Social Studies
Mathematics
Language Arts
Science

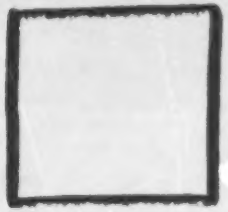
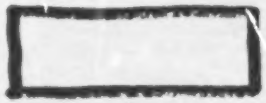
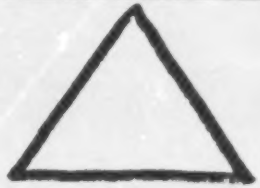
Objective(s):

Through scheduled activities, students will demonstrate perceptions of natural objects in relation to geometric figures and create preservation/conservation slogans for the natural area studied.

Rationale/Directions:

The several activities suggested here could be done together or independently and provide for a filler time slot as needed or be regularly scheduled. Classes can be divided into teams, each assigned a section to perform in detail or each student may be assigned the total activity. In the latter case, a longer time allotment is necessary. Students will need a firm writing surface.

Activity 1: List any natural objects you can find that have these shapes. Select one to draw for each shape. If name is not known, describe in sufficient detail.

 A.	B.	 C.	 D.	E.
Drawing	Drawing	Drawing	Drawing	Drawing

Activity 2

Look around the natural area for inspiration and create as many ecology slogans as you can using the first letters given. If the same slogan contains other words also beginning with the same given letter you can score double points: Example - Each beginning letter is worth five points, three words with the same letter in a slogan is 3 x 5 = 15 x 2 = 30.

I.	Points	III.	Points
F		N	
A		A	
L		T	
L		U	
E		R	
N		E	

II.		IV.	
T		C	
I		E	
M		N	
B		T	
E		E	
R		R	
S			
		Total	

PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
Green Bay, Wisconsin 54301

Environmental Activity Model: OUR SCHOOL YARD I - OUR OUTER SPACE

Recommended Grades: 4-8 Seasons: All seasons

Author: Robert Warpinski

Concepts:
2. Ecosystem
7. Land Use
9. Change
12. Stewardship

Integrated with:
Mathematics
Language Arts
Social Studies

Objective(s):
Using appropriate units of measure, students will plot on the graph the size of the school yard, locate building(s) and other landscape features, and make qualitative judgments on appearance as well as suggest improvements.

Rationale/Directions:

Students can learn math and language skills in their immediate environment, the school yard. We start by looking at the whole picture, and make some judgments on the overall quality of this physical learning environment. The teacher and class need to pre-determine the approximate scale to be used so that graph plotting will be in relative proportion to actual size. Measuring devices of whatever choice, U. S. standard or metric, need be available. The additional skill of conversion may also be taught. Students may be organized into teams of three.

ACTIVITIES:

1. Considering the size of the school yard and the building(s) determine an approximate scale in order to plot the yard and buildings on the graph paper:

   a) _____ actual feet will equal scale of _____ inches.

   b) _____ actual meters will equal scale of _____ millimeters.

2. Using a U. S. standard or metric tape measure or pre-measured string knotted for yards or meters:

   a) Measure and plot the boundaries of the school yard on the graph.

   b) Measure and locate on the graph the school building(s).

   c) Identify and locate approximately other major features found in the school yard: ie. trees, bushes, play equipment, drives, sidewalks, etc.

3. In a short paragraph, tell if and why the school yard and buildings are attractive or unattractive surroundings:

4. What improvements could be made to the school yard and buildings that would make them a better place for learning? You may write this in a short paragraph, make a list, and/or note them on your graph plot using a different colored pen or pencil.

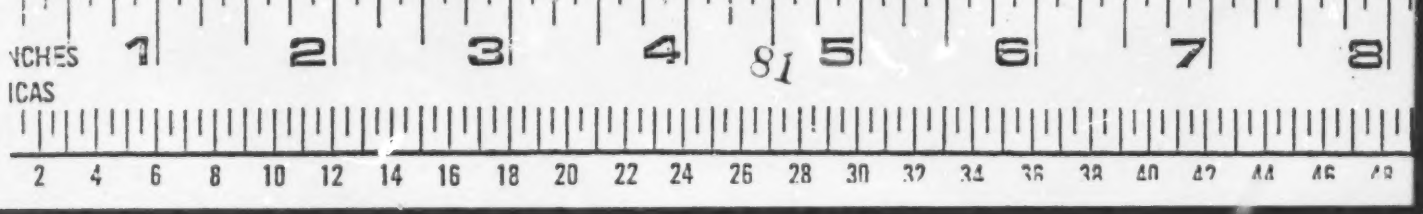
References and Resources:

Site Development and School, part 1, Minnesota Environmental Science Foundation, 1974, ICE RMC.

Environmental Enrichment - What You Can Do About It, Centron Educational Films, 1972, color, film, 21 min., ICE RMC.

Outdoor Classrooms on School Sites, USDA, Soil Conservation Service, 1972, ICE RMC.

Name of School: _____ Team Name: _____



PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
Green Bay, Wisconsin 54301

Environmental Activity Model: BILLBOARDS AND SIGNS

Recommended Grades: 5-12

Author: Robert Warpinski

Concepts:
1. Energy
3. Carrying Capacity
8. Values and Attitudes
9. Management
11. Individual Acts
12. Stewardship

Integrated with:
1. Social Studies
2. Mathematics
3. Art
4. Language Arts
5. Business Education
6. Home Economics

Objective(s):
In following through on activities suggested students will differentiate between kinds of signs and billboards, tally number encountered in a delimited area, and make distinctions on quality, merit, and need, as well as, offer suggestions for improvement.

Rationale/Directions

Advertising billboards, sales promotion, informational and directional signs are a part of our everyday life. They vary only in number and intensity in different types of communities. There is a need and a purpose for signs and billboards ranging from providing necessary information to pure and simple economic exploitation. In the worst sense, they can create a monster called visual pollution that is both a real physical threat and an affront to our aesthetic senses. The issue then is to descriminate between what is necessary and desirable and what is unsightly and offensive in the number, kind and type of signs and billboards. To accomplish this we need to focus and sharpen our senses of perception and visual discrimination. And finally, when necessary, we must be committed to some action in a rational way, at least to be able to offer some suggestions for improvement.

Billboards and Signs - Activity Worksheet
(Individuals or teams of 3-5)

1. Identify the area limits of survey—draw a sketch of the streets, label them.

2. Take one, or several pictures from a vantage point that best takes in the survey area. Locate your vantage point on sketch above by a ⊗.

3. Tally of commercial signs:

a) Identify type of business	b) Number of signs for each
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Total Number _____	Total Number _____

4. Tally of public control, direction, information signs.

1) Identify kinds of signs	b) Number of each kind
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Number of kinds _____	Total Number _____

5. Count and describe any other signs or billboards in the area not included in Items 3 or 4.

a)

b)

c)

d)

e)

6. From the list of signs/billboards noted before:

a) Select one most necessary and explain why:

b) Select one most unnecessary and explain why:

c) Select one most attractive and explain why:

d) Select one most unattractive and explain why:

7. Select one commercial establishment, critique its use of signs and make suggestions for improvement.

8. Comment briefly on total perception, recommend any improvements you would make and tell why.

Resources: I-C-E RMC

Film 170	Noisy Landscape, 13½ min., color (Donated by NEW Chaper, American Institute of Architects)
115 Jo	DeSchool Primer; Your City Has Been Kidnapped

PROJECT I-C-E
INSTRUCTION-CURRICULUM-ENVIRONMENT
1927 Main Street
Green Bay, Wisconsin 54301

Environmental Activity Model: SCHOOL YARD IX: WHO'S DRIVING WHO?

Recommended Grades: 5-12 Season: All

Author: Robert Warpinski

Concepts:
6. Resources
9. Change
11. Individual Acts
12. Stewardship

Integrated with:
Social Studies
Mathematics

Objectives:

Through the activity design, students will determine efficiency of car operation, and consider data to compute total miles driven and total fuel utilized and the annual cost per passenger for the cars in the school parking lot.

Rationale/Directions:

We are always quick to point a finger at others, or discuss problems, environmental and other, when such do not impact on us personally/directly. Energy, in this case gasoline, is an impending crisis. This survey may just impact on us and then--"What can I do to lower energy consumption?"--becomes a personal question.

Assign students to teams of two or three each, and have each team designated for Car No. 1, Car No. 2, etc., in sequence. Students then are directed to school parking lot, either staff or student, and they then randomly select automobiles, or do all that are in the parking lot. Once they have selected the automobile and recorded basic descriptive data for Item #1, they must identify the owner, either staff or student, and by interview, obtain the information for items 2 through 7. Once this information is available, students do the computations for items 8 and 9.

Item #10 can then be done as a class and discussion directed to costs and fuel conservation.

STUDENT WORKSHEET

TEAM MEMBERS: _____

_____

CAR NO: _____ _____

1. Make/Model: _____

   Check one: Compact _____ Intermediate _____ Full Size _____

2. Number of cylinders: _____ 3. Engine Horsepower Rating: _____

4. Average Miles Per Gallon of Fuel: _____ 5. Average Fuel Cost (per gallon): _____

6. Average Round Trip Miles to Work: _____ 7. No. of Passengers: _____

8. Figure fuel cost for each round trip:

   _____ ÷ _____ = _____ x _____ =

   Round trip miles | Miles per gallon | (Gallons used) | Cost per gallon

   _____ _____

   Cost per round trip

9. Cost per passenger:

   a) If one person travels, that daily cost is: _____

      The cost per year is (190) x (cost _____) = _____

   b) If more than one: (daily cost _____) ÷ (number of passengers _____)

      _____ cost per passenger.

      The cost per year for each passenger is (190) x (daily cost _____) =

      _____.

10. Additional activities:

   a) Compare results for all cars surveyed by the class:

      1) How many total miles driven each year by all cars surveyed? _____

      2) How many gallons of fuel are used each year by cars surveyed? _____

      3) What is the total cost per year to operate all the cars surveyed? _____

      4) Which cars are more efficient (cost less to operate)? _____

   b) How could gasoline fuel be conserved and money saved? Discuss.

ORDER FORM

PROJECT I-C-E

1927 Main Street, Green Bay, Wisconsin 54301 (414) 497-3755

A USOE National Diffusion Network Project

Ordered by: Name _____

Address _____

_____ ZIP _____

Bill to: Name _____

Address _____

_____ ZIP _____

Purchase Order No: _____ Date _____

Amount of Order _____

Shipping Charges _____

Amount Due _____

I-C-E Environmental Education Guides and field activities are available as a complete set or individually. Please give quantity desired per the following list. SHIPPING CHARGES ARE EXTRA

ITEM	PRICE	QUANTITY	TOTAL COST
1. Complete set of 39 booklets in the I-C-E Environmental Education Guide Series	$85.00		
2. Complete set of ICE field activities	$ 5.00		
3. Complete set of EAT field activities	$ 9.00		
4. Complete set of School Yard field activities	$ 2.00		
5. Implementation Strategy Handbook	$ 1.50		
6. Concept Rationale Booklet	$ .50		
7. Catalog of Media Resources	$ 1.50		
INDIVIDUAL TITLES Environmental Education Guides			
Kindergarten, 106 pages	3.00		
Grade One, 116 pages	3.75		
Grade Two, 104 pages	3.00		
Grade Three, 127 pages	3.75		
Grade Four, 121 pages	3.75		
Grade Five, 136 pages	3.75		
Grade Six, 109 pages	3.00		
Music (Grade K-3), 52 pages	1.50		
Music (Grade 4-6), 73 pages	2.25		
Art (Grade K-3), 61 pages	1.50		
Art (Grade 4-6), 70 pages	2.25		
Physical Education (K-6), 76 pages	2.25		

ITEM	PRICE	QUANTITY	TOTAL COST
Math (Grade 7), 44 pages	1.50		
Math (Grade 8), 46 pages	1.50		
Language Arts 7 & 8, 76 pages	2.25		
Social Studies 7 & 8, 78 pages	2.25		
Earth Science 7 or 8, 78 pages	1.15		
Life Science 7 or 8, 40 pages	1.15		
Music (Grade 7-9), 46 pages	1.50		
Art (Grade 7-9), 88 pages	2.25		
Physical Education 7-12, 26 pages	.75		
Home Economics 7-12, 126 pages	3.75		
General Math 9-12, 88 pages	2.25		
Mathematics 9-12, 89 pages	2.25		
Language Arts 9-12, 80 pages	2.25		
Music 10-12, 24 pages	.75		
Art 10-12, 72 pages	2.25		
Civics, 38 pages	1.15		
World History, 30 pages	1.15		
American History, 26 pages	.75		
Elective Studies, 26 pages	.75		
Industrial Arts I, Woods, Metals, Drafting, Electricity, 103 pages	3.00		
Industrial Arts II, Plastics, Graphic Arts, Power Mechanics, 86 pages	2.25		
Agriculture, 104 pages	3.00		
Physical Science, 26 pages	.75		

ITEM	PRICE	QUANTITY	TOTAL COST
Biology, 122 pages	3.75		
Chemistry, 44 pages	1.50		
Physics, 42 pages	1.50		
Business Education, 148 pages	3.75		
INDIVIDUAL FIELD ACTIVITIES - ICE			
1. Tips for a Good Field Experience	.15		
2. Checklist of Field Trip Activities	.10		
3. Colors, Shapes, Patterns & Textures in Nature (1-3)	.10		
4. It's Your World (K-3)	.20		
5. Alphabet Observation Hike (K-1)	.10		
6. Land Use-A Simulation Activity (7-9)	.10		
7. Yuru the Guru Studies Ecology (2-adult)	.20		
8. Nature's Recycling System #2 (3-6)	.20		
9. Ecology Treasure Hunt #1 (3-5)	.15		
10. Billboards & Signs (5-12)	.15		
11. Two Reporters Dig Those Crazy Clues (5-12)	.40		
12. Good Evening, Ladies & Germs (7-12)	.30		
13. Here Comes the Judge (5-12)	.25		
14. Come Fly With Me--Any Season (5-9)	.25		
15. He Said What? Well, Here's What I Think (9-12)	.20		
16. Go Solo-Then Shape and Share (6-12)	$ .15		
17. Forest Management Session (5-8)	.20		
18. A Land Ethic (7-12)	.20		
19. Urban Environmental Investigation Tasks (10-12 Advanced)	.20		
20. Don't Use Traffic Jam on Peanut Butter Sandwiches (1-6)	.25		
21. Who Was Here? (2-5)	.25		
22. Ecology Treasure Hunt #2 (5-8)	.25		
23. Discovering Who's Who Among The Evergreen Trees in WI (5-7)	.30		
24. Be Kind to Your Outdoors (6-10)	.30		
25. Those 'Way Out' Wild Plants (The Non-Flowering Plants)(9-12)	.25		
26. The Forester at Work (10-12 Advanced)	.35		
27. Is Man's Environment for the Birds? (4-Adult)	.20		
28. Trees in the City (11-12 Advanced)	.30		
29. Wild Flowers in Their Own Habitat (10-12)	.45		
30. Be Prepared to Get Lost (5-8)	.20		
31. Plants & the Soil (7-12)	.30		
32. How Much? (Costs) (4-6)	.10		
33. Nature's Recycling System #1 (3-6)	.15		
INDIVIDUAL FIELD ACTIVITIES - EAT			
1. A Forest Visit (K-1)	.15		
2. Wanted: Dead or Alive! (K-2)	.10		
3. Little Things I Know (K-2)	.30		
4. Be A Frog, A Bird, A Tree (K-6)	.10		
5. Short Stuff (K-12)	.20		
6. Visit to a Wild Place (1-2)	.20		
7. Things the Eyes Don't See (1-2)	.10		
8. Guess Who (1-2)	.10		
9. What Are Your Values (1-3)	.10		
10. The Fox and the Hunter (1-12)	.10		
11. The Burr and the Beast (2-4)	.10		
12. The Webspinners (2-5)	.10		
13. Measure Your World (3-4)	.15		
14. Warmed Over Soil (3-4)	.10		
15. Sherlock Holmes, Anyone? (3-5)	.25		
16. Plants of the Apes and Men (3-5)	.10		
17. Animal Tracks (3-6)	.10		
18. Cold White Stuff (3-6)	.15		
19. Excursion to Another World (3-8)	.25		
20. How Hard Does the Wind Blow? (3-8)	.20		
21. A Square Foot (3-8)	.10		
22. This and That Tree (4-6)	.30		
23. Sticks and Stones May Break Your Bones (4-6)	.15		
24. The Gopher's Backyard (4-6)	.30		
25. Tripping Through the Timbers (4-6)	.15		
26. Snow as an Insulator (4-6)	.15		
27. Nature Scavenger Relay Race (4-6)	.05		
28. Why Do the Timbers Fall? (4-6)	.10		
29. Where Are the Animals? (4-8)	.30		
30. This is My Leaf (4-adult)	.20		
31. The World and Me (5)	.15		
32. Stepping Off With Metrics (5-6)	.15		
33. The Shape of Nature's Odds and Ends (5-6)	.10		
34. Pictures from Nature's Odds and Ends (5-6)	.10		
35. Interrelationships in Nature (5-6)	.10		
36. Hot Diggity Dog (5-7)	.10		
37. Snug as a Bug in a Rug (5-7)	$ .25		
38. They Got Me Coming and Going (5-8)	.15		
39. Bird Nest Soup (5-8)	.20		
40. It's Anybody's Guess (5-8)	.25		
41. In Every Life a Little Rain Must Fall (5-12)	.10		
42. At Home in the Sky (5-12)	.25		
43. Succession at the Forest Edge (6-8)	.25		
44. World of the Wily Whitetail (6-9)	.15		
45. How Wet a Spring (6-8)	.15		
46. Name the Trees (6-12)	.30		
47. Track Soup (7-8)	.35		
48. Slopes and Contours (7-9)	.20		
49. Tenth Acre Timber Tally (7-9)	.20		
50. Community Changes (8-12)	.20		
51. Trees Have Heart Attacks, Too (9-10)	.20		
52. Hunter Safety Field Course (Age 12-adult)	.10		
53. The Forester at Work I: Ecological Forest Survey (10-12)	.40		
54. The Forester at Work II: Timber Stand Inventory (10-12)	.30		
55. Bugs About Insects (5-8)	.40		
INDIVIDUAL FIELD ACTIVITIES - SCHOOL YARD			
1. Our School Yard I - Our Outer Space (4-8)	.15		
2. Our School Yard II - Secrets in the Asphalt/Cement (3-6)	.15		
3. Our School Yard III - Super Snoopers of Scotland Yard (2-3)	.20		
4. Our School Yard IV - Happy Hippety Hoppers (K-1)	.15		
5. Our School Yard V - The Blocks Will Tell (K-1)	.20		
6. Our School Yard VI - The Tissue Tells The Tale (5-6)	.15		
7. Our School Yard VII - Pictures Tell a Better Story (4-6)	.15		
8. Our School Yard VIII - Frog Station Frolics (4-6)	.40		
9. Our School Yard IX - Who's Driving Who? (5-12)	.10		
10. Our School Yard X - Inventory/ Analysis for the Outdoor Classroom (5-12)	.60		

ENVIRONMENTAL EDUCATION STAFF INTEREST CHECKLIST

I-C-E DEVELOPER/DEMONSTRATION PROJECT
GREEN BAY, WISCONSIN

Dear Teacher:

Under a contract with U. S. O. E., the National Diffusion Network, Project I-C-E (Instruction-Curriculum-Environment) can provide inservice and technical assistance to teachers in other schools with a demonstrated need and interest in adopting/adapting an environmental education program. We can service a limited number of schools, hence, to help your school system determine level of need and interest, please complete this simple checklist. Please provide the information at the bottom of the form for our records and potential rostering. Your responses are confidential information and will in no way jeopardize your status or position.

	Yes	Sometimes/ Maybe	No
1. Maintaining environmental quality must be of concern to all individuals.	____	____	____
2. Education at all levels should be directed toward environmental issues.	____	____	____
3. A school system should have a general philosophy supporting environmental education.	____	____	____
4. All teachers should include environmental instruction as part of their course of study.	____	____	____
5. As a teacher I do include environmental units/activities in my classes.	____	____	____
6. Environmental curriculum materials and instructional strategies would help me teach environmentally.	____	____	____
7. I would be interested in investigating different approaches to environmental education.	____	____	____
8. I would be willing to commit a reasonable part of my instructional effort to adopt/ adapt the essential core of an environmental education program.	____	____	____

Comments: (Use other side of sheet.)

Please provide the following information:

Name: _____

Grades/Subjects you teach: _____

School/District: _____

Please return to school office promptly—thank you.

ADOPTER APPLICATION FORM - PROJECT I-C-E, 1927 Main Street, Green Bay, WI 54301

Please provide the following information to initiate arrangements to adopt/adapt the I-C-E Environmental Education Program:

1. Name of district/school: _____
   Address: Street/POB: _____
   City; State; Zip Code: _____
   Telephone: Area Code _____/_____/_____

2. Adopter Contact Person: _____
   Title: _____
   Telephone: _____
   Address (if different from above) _____

3. Category of Adoption Desired: Please check, refer to No. 2 in Index:

   _____ Formal adoption _____ Initiate formal adoption

   _____ Informal adoption _____ Other

   _____ Need more information (specify):

4. Approximate number of staff to be involved: _____

5. Teaching level of staff involved; check as appropriate:

   _____ Primary _____ Intermediate _____ Middle/Jr. High _____ Senior High

6. Demographic Data on Adopter Site

   a. Adopter's major municipality population; approximate: _____

      Please circle one: Urban Suburban Rural

   b. Congressional District Number of Adopter Site: _____

   c. Number of teachers in district/school: Elementary _____
      Middle/Jr. High _____
      Senior High _____

   d. Number of students in district/school: Elementary _____
      Middle/Jr. High _____
      Senior High _____

   e. School buildings in district: Elementary _____
      Middle/Jr. High _____
      Senior High _____

7. Applicant Signature: _____

   _____ Title _____ Date

DEVELOPER/DEMONSTRATOR — ADOPTER AGREEMENT

PROJECT I-C-E

1927 MAIN STREET

GREEN BAY, WI 54301

AND

_____ (School/District)

_____ (Street Address)

_____ (City, State, Zip)

Do mutually agree to such services, conditions and costs as herewith specified either with specific items as checked or modifications as noted, for the purpose of implementing the essential core* of the I-C-E Environmental Education Program in said school/district.

I-C-E SERVICES PROVIDED	SCHOOL/DISTRICT COMMITMENT
___1. Pre-adoption survey form to ascertain teacher interest in environmental education, as needed.	___1. Show through pre-adoption survey or other means the teacher interest in adopting/adapting an environmental education program.
- - - - - - -	- - - - - - -
___2. Planning and followup assistance via telephone/letter to designated local leadership.	___2. Designate local leadership to assist project staff with planning, implementation, monitoring and evaluation.
___3. Instructional materials necessary for program implementation; available at cost.	___3.*Acquire necessary I-C-E instructional materials for teachers involved in the program.
___4. Project staff for teacher inservice to introduce I-C-E program and initiate implementation.	___4.*Meet the minimum adoption requirements of staff to be trained and schedule 3-5 hours for inservice.
___5. Provide consultation and other assistance as needed during implementation; return visit to site if necessary to monitor or evaluate. (optional)	___5.*Teachers in the program accept the I-C-E concepts as an instructional framework and agree to implement a minimum of six lessons/activities during the adoption period.
___6. Forms for teacher assessment of episodes and activity models and, where possible, test instruments to evaluate effectiveness of program for grades 2, 5, 8 and 11 as available at site.	___6.*Through monitoring reports, provide for evaluation of program and, where possible, student impact via I-C-E cognitive instruments for grades 2, 5, 8 and 11 as available at adopting site.
___7. Instructional media and other resources, where desired, available at rental fees.	___7. Inform and invite local nonpublic schools to participate, where practical.
___8. Travel and per diem to/from adoption site to be negotiated.	___8. Travel and per diem for project staff while on site; negotiable.

I-C-E SERVICES PROVIDED SCHOOL/DISTRICT COMMITMENT

___9. Modifications/Other considerations:

_____

_____

_____

10. Time schedule for adoption activities and miscellaneous:

_____

_____

_____

We attest that the entries above constitute the services to be provided by Project I-C-E and the commitment to implement the I-C-E program by the above cited school/district.

For Project I-C-E

_____
Director

_____
Date

For School/District

_____
Superintendent/Principal

_____
Date

STATE FACILITATOR SECTION

In conjunction with the above agreement, the functions and obligations of the State Facilitator are as herewith specified:

Functional Checklist:

Need Identification _____

Training Arrangements _____

Monitoring _____

Financial Support _____

Evaluation _____

APPROVED BY:

_____
(Facilitator)

_____
(State)

_____
(Date)

I-C-E Program Description and Validation Record

Description:

The program selected for adoption/adaption is Project I-C-E (Instruction-Curriculum-Environment). Originally developed under E.S.E.A. Title III, during the period 1970-1975, in Area "B", it was a Wisconsin regional program including all public and non-public schools in Cooperative Educational Service Agencies (CESA) 3, 8, and 9, with the project office at CESA #9, in Green Bay.

Project I-C-E is a K-12 curriculum and instruction program for environmental education. The program is based on a set of 12 major environmental concept categories. This conceptual framework provides the structure for each subject area and grade level, and totally, K-12, to assist all staff to teach environmentally.

The major goal of the I-C-E program is to directly or subtly lead students to awareness, recognition and appreciation of the vital issues, concerns and factors shaping environmental attitudes and values for a quality life while maintaining environmental balance.

The project-developed teacher materials include a series of 39 I-C-E Environmental Education Guides for all grade levels and in all major subject areas, except foreign languages. Teachers adopt or modify activities according to interest, need or locale. The suggested learning activities are designed to be integrated into regular courses of study by substitution of content or activity, hence, not additional instructional matter. This is achieved through a supplementary episode (mini-lesson) design that

includes the concept, subject area and topic designation, suggests several alternative student/class activities based on cognitive and affective objectives and necessary skills, and includes suggested reference and instructional resources for the teacher.

The program emphasizes use of urban and natural communities as an extension of and a reinforcement for classroom activities. It is basically not highly technical nor strongly oriented to the sciences, hence, no special equipment or facilities are necessary for the implementation intended.

Validation:

In the setting of 53 school districts and 114 non-public schools, with 7,500 teachers and 160,000 students, Project I-C-E involved 235 teachers in program development, conducted implementation inservice in a majority of the districts, and provided environmental instruction materials to all project area teachers. Project I-C-E underwent the IVD (Identification-Validation-Dissemination) process and was so validated by the state of Wisconsin in 1973. In May, 1975, Project I-C-E passed the USOE/NIE Joint Dissemination Review Panel on the basis of student effectiveness, low cost, and transportability. Since then, I-C-E has functioned as a Developer-Demonstration Project in the USOE-funded National Diffusion Network, making the program available for adoption-adaption activities nationwide.

Adopter/Adapter Goal Statement (sample)

(School/District) adoption of the I-C-E Environmental Education Program will provide a systematic process for bringing together present local environmental learning activities, suggested I-C-E curriculum materials and other resources as an integral part of the instructional program resulting in student achievement of a greater awareness and understanding of the

twelve (12) major I-C-E environmental concepts for maintaining environmental balance and a quality life now and for future generations.

OBJECTIVES

Performance Objective I - Adopter/Adapter Training

Teachers, principals, supervisors, specialists and others to be involved in the adopting/adapting school or district will:

1) Receive information on I-C-E program rationale and approach;
2) Become familiar with the twelve (12) major environmental concepts that provide a framework for the program;
3) Gain experience with the I-C-E curriculum materials; and
4) Initiate planning to integrate/incorporate the environmental concepts and activities in their instructional program;

to be accomplished during a five (5) hour workshop conducted by I-C-E staff at a time to be arranged during the proposed project period with evaluation consisting of a rating scale and comments on training program components indicating average or above performance satisfaction by 70% of the participants.

Performance Objective II - Adopter/Adapter Implementation

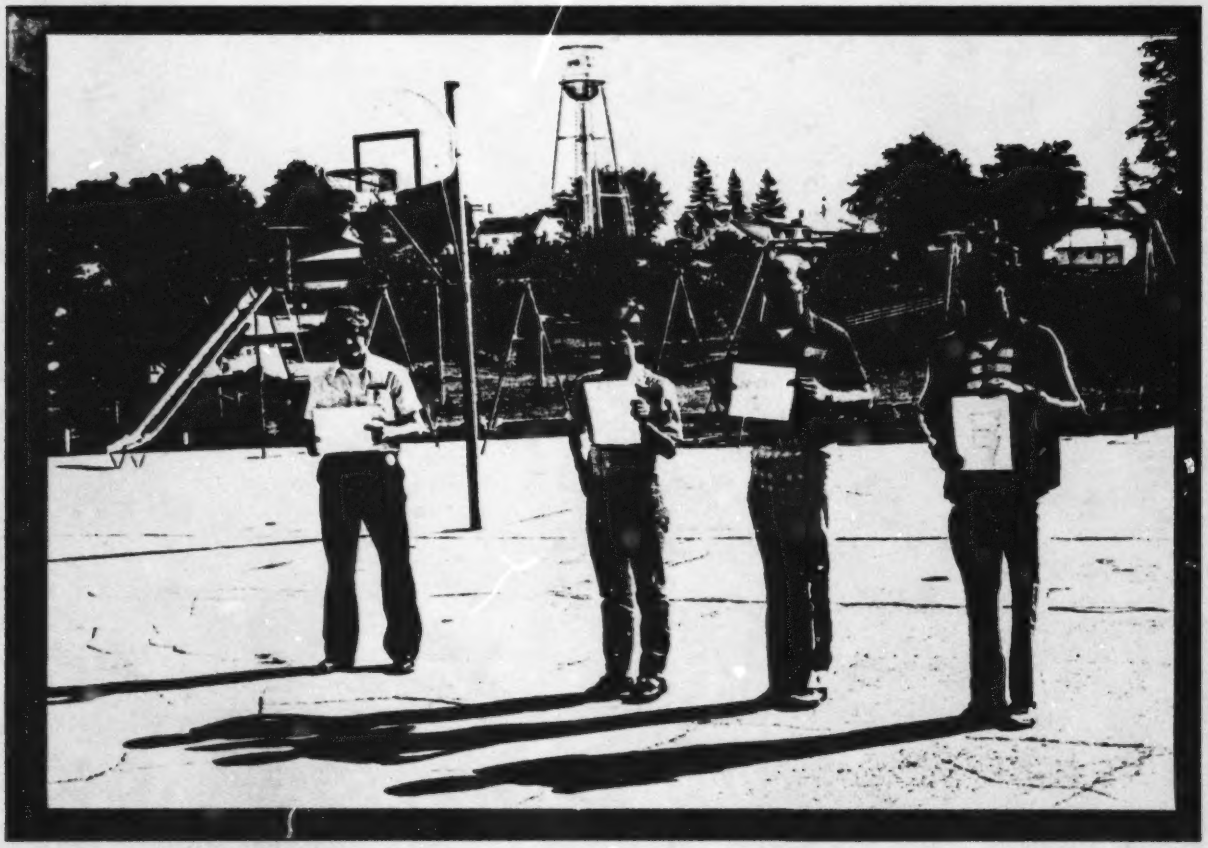
During the course of the adopter/adapter project period, the school/district teachers involved will use activities from the curriculum series directed to at least six (6) of the twelve (12) concepts in the I-C-E program with monitoring the responsibility of local principals, supervisors, or specialists, with evaluation a matter of a mid-term implementation status survey and the accumulated monitoring reports from teachers on all such activities instructionally implemented.

Performance Objective III - Adoption/Adaption Evaluation

Where at least three (3) to six (6) months are available for implementation, evaluation of the program and/or student achievement will be accomplished by:

1) Tabulating the results as provided by teacher monitoring reports and/or
2) Where provision is made, to pre-post test students at sample grades 2, 5, 8, or 11, as available, using the I-C-E Environmental Cognitive Inventories (ECI) to show equal or greater ($\leq .05$) achievement as compared to original project base data,

to be conducted under local supervision and monitoring, with data analysis and reporting the responsibility of the I-C-E staff, within 30 days after submittal of forms by the adopting/adapting district.



ADOPTION/ADAPTION IMPLEMENTATION SCHEDULE

In concert with E.S.E.A. Title IV-C proposals and other applicants to adopt/adapt the I-C-E environmental education program the following activities: (1) need to be incorporated into the proposal, (2) responsibility designated, (3) scheduled appropriately during the proposed project period, and (4) budgeted for:

	ACTIVITY	STAFF	SCHEDULE	BUDGET
A.	I-C-E Teacher Training Workshop 5 hours during one day 1. Program overview 2. I-C-E EE concepts 3. I-C-E EE guides/activities 4. Environmental Instruction Inventory 5. Other options	I-C-E staff	Initial adoption activity	a. Project staff travel and per diem expenses (15¢ per mile, $40 per day). b. Materials for teachers in program at approximately $5 each.
B.	Pre-test students on concept cognition. Sample grades (2, 5, 8, 11) as available.	Local staff	2-3 weeks after training workshop, where at least 3-6 months of implementation possible.	Approximately 50¢ per student for both pre-post test administration.
C.	Program implementation; I-C-E episodes/activities integrated or independently used as befits teacher course of study; goal; one lesson for each of the 12 concepts in the program, minimum of 6. Episode/Activity evaluation by teachers.	Local staff	Period between pre-post test	N.A., unless local media rental or field trip expenses need be figured.
D.	I-C-E return on-site visit in response to problems, questions, etc. (OPTIONAL)	I-C-E director	During implementation stage	Travel and per diem expense for project staff (same rate as "A")
E.	Post-test students on concept cognition, sample grades (2, 5, 8, 11) as available.	Local staff	Suggest mid-May deadline	Accounted for in "B".
F.	Evaluation report on this implementation stage.	I-C-E staff	30 days after post test.	N.A.

TRAINING WORKSHOP EVALUATION
PROJECT I-C-E
Green Bay, Wisconsin 54301

District/School: _____
State: _____
Date: _____

In a continuing effort to improve program quality and presentation mode, please rate and comment on each component used as listed below. Thank you.

		Overall Quality and Merit				
		Low ←				→ High
I.	Setting the Mood Film: The Stream Discussion/Implications Comments:	1	2	3	4	5
II.	The I-C-E Conceptual Framework Slide/Tape: To Love and Respect the Land Discussion Comments:	1	2	3	4	5
III.	I-C-E Environmental Curriculum Guides Introduction and implementation design Perusal and tentative planning time Comments:	1	2	3	4	5
IV.	Reinforcing Classroom with Community Activities I-C-E Outside Activity Series An Experience or slide/tape Comments:	1	2	3	4	5
V.	Other Program Options: To be identified Comments:	1	2	3	4	5
VI.	Overall-Did workshop meet your needs/ interests to adopt/adapt the I-C-E program to your teaching? Comments:	1	2	3	4	5

PROJECT I-C-E EPISODE MONITORING REPORT

Please complete this form for each episode you use from the I-C-E guides.

Grade/Subject: _____ Concept: _____ Page: _____

Approximate class period for each lesson: _____ hours.

Teacher _____

School _____

		RATING: Below Average	Average	Above Average	Superior	COMMENTS (Continue on back of page if you wish.)
What did you do? (Please circle activity letters to tell which you did. Note any adaptations you made.)						Did the students enjoy the activities? Why?
In Class	A					
	B					
	C					
	D					
	E					
Outside Or Community	A					
	B					
	C					
	D					
	E					
What did you use?						Which were outstanding or less useful than you had expected? Why?
I-C-E References/Resources						
Other publications						
I-C-E audio-visual materials						
Other audio-visual materials						
Who did you use? Community:						Who? How?
a. Persons						
b. Places						
c. Things						

What percentage of students attained the following:	PERCENTAGES 0-25	26-50	51-75	76-100	How do you feel about the results?
Cognitive objective(s)					
Affective objective(s)					
Skills					

PROJECT I-C-E, 1927 Main Street, Green Bay, Wisconsin 54301

IMPLEMENTATION STATUS SURVEY

Date: _____ District/School: _____

Teaching Level (Circle One): ELEMENTARY MIDDLE/JR. HIGH SENIOR HIGH

Please circle response, provide figures or comments as asked, for the following items. Thank you for your cooperation.

1. Have you used any activities as suggested in the I-C-E Environmental Guide?

   Yes _____ How many? _____ No _____

   a) If "yes", rate general effectiveness/merit: LOW 1 2 3 4 5 HIGH

   b) If "no", please give reason:

2. Have you used any I-C-E environmental activities provided for outside community or field experiences?

   Yes _____ How many? _____ No _____

   a) If "yes", rate general effectiveness/merit: LOW 1 2 3 4 5 HIGH

   b) If "no", please give reason:

3. Do you have plans to use suggested I-C-E environmental activities in the future?

   a) from the environmental guide? Yes _____ How many? _____ No _____

   b) from the outside/field activity series? Yes _____ How many? _____ No _____

   c) If "no" for either or both, give reason:

4. Have you used any of your own or other environmental lessons to get at the I-C-E concepts?

   Yes _____ How many? _____ No _____

(Detach, and turn in separate from above questionnaire.)

If you have any specific questions/needs that I-C-E might provide by telephone, letter or in person, please state and give contact information. There are many other environmental units and activities on virtually any topic which we would be happy to provide or to assist you in other planning and development.

Questions/Needs: _____

_____

_____

Name: _____

District/School: _____

Address/Telephone: _____

Best Time to Contact: _____

THANK YOU

SAMPLE PAGE: GRADE 8 ENVIRONMENTAL COGNITIVE INVENTORY (ECI)

10. A SPORTSMEN'S GROUP SAVES A MARSH FROM BEING FILLED IN. WHICH WORD BELOW BEST DESCRIBES THEIR ROLE?

_____A. BROTHERHOOD

_____B. TENANTS

_____C. STEWARDS

_____D. OWNERS

11. TO HELP IMPROVE THE ENVIRONMENT, A PERSON MUST CHANGE HIS/HER:

_____A. EDUCATION

_____B. BEHAVIOR

_____C. POLITICAL LIFE

_____D. CAREER

12. WHICH AREA SHOULD NOT BE USED FOR RESIDENTAL OR COMMERCIAL PURPOSES?

_____A. AREAS IN THE CENTRAL CITY.

_____B. AREAS THAT CONTAIN SAND AND GRAVEL.

_____C. RAVINES WITH SCRUB TREES AND BUSHES.

_____D. AREAS THAT CONTAIN FARM SOIL.

13. WHAT ONE THING IS BASIC TO ALL FOOD CHAINS?

_____A. PLANTS

_____B. PEOPLE

_____C. ANIMALS

_____D. INSECTS

14. WHAT WOURLD BE THE CHEAPEST AND THE MOST EFFECTIVE WAY TO PROTECT A LAKE SHORELINE FROM EROSION?

_____A. BUILD A CEMENT WALL.

_____B. PUT IN MORE SAND.

_____C. BUILD A DAM.

_____D. PUT IN ROCK FILL.

PROJECT I-C-E - 1927 Main Street, Green Bay, Wisconsin 54301

AWARENESS PROGRAM EVALUATION

Program Location _____

Date _____

As a check on presentation content and mode, and to suggest areas for improvement, please rate and comment as necessary on the following aspects of this awareness session:

Thank you.

ITEMS	(Circle rating.) Low	1	2	3	4	5	High
1. Provided adequate information on the nature of the I-C-E program to satisfy client needs/interests.		1	2	3	4	5	
2. Presented sufficient detail on requirements to adopt/adapt the program.		1	2	3	4	5	
3. Informative about the National Diffusion Network and relationships of the I-C-E Project, State Facilitators, and local districts/schools.		1	2	3	4	5	
4. Audio-visuals and program handouts were adequate and appropriate to client needs and interests.		1	2	3	4	5	

5. Your comments/suggestions here appreciated:

(Detach; turn in separately.)

If you would like additional information or assistance in the preparation of IV-C proposals or with application to State Facilitators to adopt/adapt the program, please check appropriate area and provide contact information for needed followup.

_____ Need more information.

_____ Would like assistance for ESEA IV-C Adopter Proposal.

_____ Would like State Facilitator contact to adopt/adapt the program.

Name: _____

Position: _____ Telephone: _____

District/School: _____

Address: _____

Best Time to Contact: _____

If you liked the Stone Age, you're going to love the day the oil runs out.

Things will be a lot quieter, because all the motors will have stopped. Without traffic on the freeway you'll be able to walk to work. Except there won't be much work to walk to.

There won't be any plastics or vinyls or man-made fibers or fertilizers. The thousands of everyday products that are made from petroleum will have vanished from our lives. Life will become, let us say, simpler.

Of course, it doesn't have to be this way. But today, while we have the lead time necessary to develop nuclear power, or to switch our industries from oil and gas to coal, we are doing nothing. We are waiting. Waiting for "someone else" to solve our energy problem. If we wait long enough, we'll all be waiting in the dark, won't we?

We think it's time this country had a strong, reasoned energy policy. If you feel the same way, speak out now. Demand that your elected representatives support intelligent energy legislation.

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